

Meeting of the Federal Open Market Committee
June 30-July 1, 1998

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, June 30, 1998, at 1:30 p.m. and continued on Wednesday, July 1, 1998, at 9:00 a.m.

PRESENT: Mr. Greenspan, Chairman
Mr. McDonough, Vice Chairman
Mr. Ferguson
Mr. Gramlich
Mr. Hoenig
Mr. Jordan
Mr. Kelley
Mr. Meyer
Ms. Minehan
Mr. Poole
Ms. Rivlin

Messrs. Boehne, McTeer, Moskow, and Stern, Alternate Members
of the Federal Open Market Committee

Messrs. Broadus, Guynn, and Parry, Presidents of the Federal Reserve
Banks of Richmond, Atlanta, and San Francisco respectively

Mr. Kohn, Secretary and Economist
Mr. Bernard, Deputy Secretary
Ms. Fox, Assistant Secretary
Mr. Gillum, Assistant Secretary
Mr. Mattingly, General Counsel
Mr. Baxter, Deputy General Counsel
Mr. Prell, Economist
Mr. Truman, Economist

Ms. Browne, Messrs. Dewald, Hakkio, Lindsey, Simpson, and Stockton,
Associate Economists

Mr. Fisher, Manager, System Open Market Account

Mr. Winn, Assistant to the Board, Office of Board Members, Board of
Governors

Mr. Ettin, Deputy Director, Division of Research and Statistics, Board of Governors

Messrs. Madigan and Slifman, Associate Directors, Divisions of Monetary Affairs and Research and Statistics respectively, Board of Governors

Messrs. Alexander, Hooper, and Ms. Johnson, Associate Directors, Division of International Finance, Board of Governors

Mr. Reinhart, Assistant Director, Division of Monetary Affairs, Board of Governors

Messrs. Small, 1/ Reifschneider, 1/ and Whitesell, Section Chiefs, Divisions of Monetary Affairs, Research and Statistics, and Monetary Affairs respectively, Board of Governors

Ms. Kusko, 2/ Senior Economist, Division of Research and Statistics, Board of Governors

Mr. Elmendorf 2/ and Ms. Garrett, Economists, Division of Monetary Affairs, Board of Governors

Ms. Low, Open Market Secretariat Assistant, Division of Monetary Affairs, Board of Governors

Mr. Barron, First Vice President, Federal Reserve Bank of Atlanta

Messrs. Beebe, Eisenbeis, Goodfriend, Hunter, Lang, Rosenblum, and Steindel, Senior Vice Presidents, Federal Reserve Banks of San Francisco, Atlanta, Richmond, Chicago, Philadelphia, Dallas, and New York respectively

Ms. Perelmuter, Vice President, Federal Reserve Bank of New York

Mr. Bryan, Assistant Vice President, Federal Reserve Bank of Cleveland

Mr. Weber, Senior Research Officer, Federal Reserve Bank of Minneapolis

1/ Attended portion of the meeting relating to the Committee's consideration of its monetary and debt ranges for 1998 and 1999.

2/ Attended portions of the meeting relating to the Committee's review of the economic outlook and consideration of its monetary and debt ranges for 1998 and 1999.

Transcript of Federal Open Market Committee Meeting
June 30-July 1, 1998

June 30, 1998--Afternoon Session

CHAIRMAN GREENSPAN. Since the members are all here, I propose that we move up the starting time of the meeting to 1:25 p.m. Hearing no objection, I consider the meeting to be in order.

The first item on the agenda is approval of the minutes for the May 19 meeting. Does somebody wish to move them?

SEVERAL. So move.

CHAIRMAN GREENSPAN. Without exception, they are approved.

The Board's public information officer traditionally has served as an assistant secretary of the Federal Open Market Committee. You all know Lynn Fox. I assume that all of us presume she is qualified, and therefore I would request that somebody nominate her.

MS. RIVLIN. I so nominate her.

VICE CHAIRMAN MCDONOUGH. I second the nomination.

CHAIRMAN GREENSPAN. If there is anybody opposed, I don't want to hear it.

[Laughter] Nominations are closed, and congratulations, Lynn. Peter Fisher.

MR. FISHER. Thank you, Mr. Chairman. I will be referring to three pages of colored charts. 1/ They have a peach cover and are somewhere in front of you, I hope.

The first page shows the 3-month Euro-deposit rates including the current, 3-month forward, and 9-month forward rates since July 1 of last year. This chart therefore covers the 12-month period since the start of the Asian crisis.

1/ Copies of the charts used by Mr. Fisher are appended to the transcript. (Appendix 1)

In the top panel for the U.S. dollar rates, you can see that most recently those rates have continued their gentle decline from their peak on April 27 at the time of the Wall Street Journal article. The decline was punctuated more recently by the market's reaction to the Chairman's testimony before the Joint Economic Committee on June 10. I will come back to that in a moment. That leaves the forward rates right on top of the current 3-month rates, which is the same state of affairs that exists in Japan, as you can see in the bottom panel.

If you look at German rates over the course of the year since the start of the Asian crisis--shown in the middle panel--your first impression may be that Europe has been going its own way. Rates rose in the second half of 1997 and maintained a bit more of a spread between current and forward rates in contrast to the dollar and yen rates. But on a second and closer look, I think one can see that since December 1997 German rates have tended to move in the same direction as U.S. rates; they declined in December and January, rose from mid-January to late April, and generally declined again from late April to the present. Their recent downdrift is attributed to the anticipation of a larger Asian effect on the European economy and therefore the perception of a reduced likelihood of rate rises over the remainder of the year from the NCBs in advance of the ECB taking over on January 1st. As this gentle downdrift has occurred in the last couple of weeks, the mark has weakened slightly against the dollar.

The bottom panel indicates that money market rates in Japan in general and the Japan premium in particular have backed up quite sharply in the past few days. The backup has occurred even though the Bank of Japan has been quite generous in its term operations in the 1- and 3-month areas, but they again have been draining shorter maturities measured in days and weeks. The widening of the various measures of the Japan premium began about two weeks ago as Nippon and Long Term Credit Bank problems came to the surface. It is interesting that the widening accelerated from last Friday to Monday after the announcement that there might be a merger between Sumitomo Trust and Long Term Credit Bank.

Turning to the next page, there are three panels that I will first describe and then go over my thoughts about them. The first panel shows the dollar/yen in green with the scale on the right side and the dollar/mark in blue with the scale on the left side. The middle panel shows constant maturity U.S. Treasury yields of 2, 10, and 30 years. The bottom panel shows the currency values of seven currencies against the dollar. Those currencies are indexed to April 10, which was the date of the Bank of Japan's intervention operation in Tokyo. The Japanese yen is shown in green. The day before we had conducted a more modest intervention operation on their behalf.

Many market participants have observed an apparent correlation between the dollar/yen and various exchange rates and rates in other asset markets. Having observed this apparent correlation, which they date back to about April 10, many in the speculative community may have reinforced it through their own trading behavior in the expectation of making a profit. That certainly has happened. But while most market participants are focused on the weakening yen as the cause of the recent correlated movements, I think we should not overlook the common thread of the strengthening dollar and the strengthening mark, which I have not graphed here, as capital flees the periphery and moves into core industrial countries.

In particular, it seems to me that over recent months, the dollar and dollar assets have been strengthening as U.S. economic data have come in close to expectations, though not so strong as to appear to require a policy tightening by the Committee. Indeed, the data have been just weak enough to avoid provoking a tightening but not so weak as to suggest that the end of the great expansion might be in sight. While I do not have similar charts for Germany, the same phenomenon has been occurring there, with the mark strengthening against the yen, equity markets reaching new highs, and Bund yields reaching new lows.

The Chairman's testimony on June 10 before the Joint Economic Committee, coming as it did in the midst of much anxiety about Japanese, Russian, Chinese, South African, and other asset markets, was perceived by the market as something of a neon sign announcing the good health of the U.S. economy in contrast to much of the rest of the world. In addition, because the Chairman appears to have been read in the market as being both on the lookout for inflationary pressures but also suggesting that a near-term tightening was not likely, investors took the testimony as a green light to buy Treasury coupon securities with minimal risk.

Our joint intervention on June 17, while providing something of a respite from the rush of markets in one direction, also in a sense proved the correlation hypothesis, at least to some people in the market. In any event, the strengthening of the yen provided some trading relief for many other asset markets. Overnight, we again had something of the same phenomenon. Today, official statements in Tokyo that made a permanent income tax cut seem more likely and suggested that one faction of the LDP might support the prime minister in his pursuit of a bridge bank concept gave the market a certain pause. In markets here at the quarter-end, a number of participants seemed to cash in their positions and take their profits home when they could. This induced something of a rally in the yen, which played through into other asset markets. I'm afraid that while there is a positive side to that, we should be aware of the likely risky side, namely that this episode seems once again to be confirming in the market's mind that everything is driven off the dollar/yen.

Turning to the last page and domestic open market operations, the average effective federal funds rate since your last meeting has been quite close to the target rate at 5.51 percent. But as you can see in the pattern of funds rate trading over the three maintenance periods, the daily effective rates have tended to oscillate between slightly soft early in the periods and somewhat firmer toward the end of the periods. You can see the slight down/up, down/up pattern in the effective rates, the red horizontal lines. This is not quite how I think we should be going about meeting the Committee's objective of an average rate. I would prefer to avoid the apparent instability that stems from having the market think of us as content with the oscillation of a negative autocorrelation pattern. I would rather that they think of us and anticipate our operations as being directed more toward a reversion to the mean. I do not yet entirely understand why we have had this problem of a soft market early in the maintenance periods. It may simply be that we have switched back and forth from adding to draining reserves as the needs worked out that way. It may also be that there continues to be some volatility in the pattern of major banks' participation in the Treasury tax and loan accounts. Some of them raise and then cut their capacity, and this is leading to some inherent instability in the market.

In the last few days, markets have been anticipating the usual pronounced quarter-end tightness in the market. Today, federal funds are trading above 6 percent as we thought they would, but this is a major payment day. We have tried to address the pressures. You can see the softish tone we gave the market yesterday in our effort to anticipate today's tightness. We have been trying to meet that as best we can.

Mr. Chairman, I will need the Committee's ratification of our domestic operations. Separately, I will need ratification of our June 17 foreign exchange intervention that I have previously described to the Committee. The System's share comes to \$416.7 million. I would be happy to answer any questions members of the Committee might have.

CHAIRMAN GREENSPAN. Questions for Peter? President McTeer.

MR. MCTEER. I gather you are saying that you object to movements up and down around the target for the funds rate and you would like those movements to be tighter. Why exactly is that?

MR. FISHER. I don't want the market to think that if we allow federal funds to be very soft at the beginning of the period, we will inevitably let the market be tight at the end of

the period. That is not my objective. I'm afraid that the pattern we have seen tends to induce a certain amount of instability if market participants come to anticipate that if the fed funds rate is soft, we will permit firmness later. I would prefer that they think of us, whatever the funds rate deviation may be on a particular day, as trying to get back to the target as best we can on each of the subsequent days.

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADUS. I don't have a question, Mr. Chairman, but I would like to comment about some of the recent foreign exchange market developments. I will be brief. Specifically, I see a risk in resisting the depreciation of the yen, if that begins to occur again. Obviously, the countries in East Asia face an extraordinary, challenging, and difficult adjustment problem; we all know that. There are no good choices for them as I see it. Deflationary forces in Japan have now pushed that very important economy into recession. Consequently, the yen has depreciated very sharply against the dollar over the last several weeks. The depreciation may indeed have been disorderly enough that it warranted intervention. I do not know. I certainly recognize that continued yen depreciation raises a lot of problems around the world. It raises the threat of another round of currency depreciation, especially in the East Asian region. But the performance of the Japanese economy, as everybody here knows, is critical to the economic health of that region and to the health of the world economy generally. And at this point, as I see it, the exchange rate is one of the few flexible prices that can adjust quickly enough and substantially enough to help the Japanese economy in the near term.

I hope that as we go forward we will keep in mind that any international effort to resist further yen depreciation carries some important risks of its own. The reason is that it has potential consequences for both Japanese and U.S. monetary policy. Fundamentally, to prevent a

further yen depreciation if underlying economic forces renew downward pressure on that currency, either the Bank of Japan must pursue a tighter monetary policy or we must pursue a more accommodative monetary policy or some combination of the two. The former, of course, risks an even deeper recession in Japan. The latter risks creating stronger inflationary pressures in the U.S. economy at a time when, at least in my view, rising inflation is already a risk. These obviously would be very undesirable consequences in two crucial economies. Indeed, a case could be made that we really need just the opposite, a more expansionary monetary policy in Japan and a less expansionary one here.

I do not pretend, obviously, to know the best way to address all of the very difficult questions we face on this subject as we go forward. I suppose one could argue that this Committee should be prepared to follow a more accommodative policy than it might otherwise to facilitate adjustment in East Asia. Such a policy would, of course, tend to stabilize the exchange rate. But it is not obvious to me that the potential benefits from stabilizing the yen/dollar rate, even though there clearly would be some significant benefits at least in the short run, are worth risking the potentially adverse consequences for both the U.S. and Japanese economies, given the underlying monetary policy actions that might be required to maintain the yen/dollar rate at or near its current level going forward. Again, these are the two largest economies in the world and they are crucial to the health of the world economy. It may be that the least-worst choice in this situation is to let the yen depreciate further and deal with the fallout from that in Asia and elsewhere in the world as best we can. On a more positive note in that context, other Asian economies clearly would benefit over time from the stronger Japanese economy that an easier monetary policy in Japan would foster, even if the cost in the near term were a weaker yen. I just wanted to make those comments. Hopefully, they will be helpful.

CHAIRMAN GREENSPAN. Let me just say that I do not think anyone at the Treasury would seriously disagree with the way you framed the issue. There was a great reluctance at the Treasury to intervene, and the decision was touch-and-go for a considerable period of time. I would say that the chances of repeating such intervention verge on the remote or even less than that. I believe there is a real understanding that Japan's or more effort to stabilize the yen in April clearly demonstrated that intervention per se does not work. If we ever needed any demonstration, that was it. The only reason that intervention seemed to work in the latest episode had nothing to do with the size of the intervention. It was the result of what somehow was perceived as a signal that either we were going to ease monetary policy or the Japanese were going to tighten. Clearly, neither policy option is even remotely on the agenda at this stage.

MR. BOEHNE. While our attention has been focused mostly on Southeast Asia, the situation in Russia is deteriorating and seems to be extremely vulnerable. Could you or someone comment on that? Do we have any relationship with Russia, formal or informal, that would get us involved in their problem?

MR. FISHER. I haven't even heard the idea floated of an intervention to support the ruble, though it has been floated with respect to some of the other currencies that have come under pressure in the last year.

MR. BOEHNE. South Africa?

MR. FISHER. No. We have operated as agent for the account of South Africa, but that is a standard reciprocity practice among central banks. We've done it routinely over the last ten years for the Reserve Bank of Australia, so routinely that you never hear about it. It is rather hard to turn down the Reserve Bank of South Africa when they ask us to do something that we

are doing month in and month out for the Australian authorities. But for our own account or the Treasury's account, I haven't heard any proposal floated for intervention in support of the ruble. I'm not sure how I would go about trading that currency. But your question was a little more general, and I defer to Ted Truman or others on whether there are other modes of assistance we might be giving to the Russians.

MR. TRUMAN. The complications with Russia stem from the fact that it is important to the United States politically and less important economically and financially. It is much more important economically and financially to our European colleagues. The basic problem in Russia is that although they have made better progress than I think many people might have expected six or seven years ago, they also have a much longer way to go. In particular, the capacity of the country to generate revenues and the need for funds to meet the obligations of the government have not been matched. There is a real concern that the heavy involvement of external funds in the financing of their government budget in recent years is building up a mountain of debt that may be a problem. But the crucial issue here is the capacity of the political system in Russia to operate effectively.

As far as financing is concerned, even leaving aside the operations that Peter Fisher commented on, I do not have a sense that there is a strong likelihood of any bilateral financing, though I wouldn't assign zero probability to anything at this point. The more likely mechanisms would involve the continued use of international financial institutions where, perhaps especially in the Russian case, the multilateral approach through these institutions is probably helpful in terms of blunting some of the political criticisms.

The other comment I would make, which is a tribute to what has been accomplished in part through the efforts of the Federal Reserve System over the years, is that I perceive a general

feeling now that the central bank is one of the strongest institutions in Russia. It should be noted that many features of the Federal Reserve System were built into the Central Bank of Russia. But as we know, central banks cannot do it all by themselves.

CHAIRMAN GREENSPAN. The major concern in the Russian situation is that the time is rapidly approaching when a major crisis could occur. As you probably know, the Russian authorities have found it increasingly difficult to refinance maturing obligations in their new Treasury bill market. As their outstanding bills have matured, the Russians have increasingly had to raise interest rates in order to sell the new bills, and there apparently is no equilibrium rate level. A lot of those bills denominated in rubles are held by foreigners. At this stage, the time frame before the crunch occurs is probably only a few weeks to a month or so.

The issue that Ted Truman alluded to is a very considerable concern in this government beyond the financial officials--people in the White House, the State Department, and the security agencies--that some action will have to be taken to prevent the collapse of the Russian economic system. The question that is driving everyone to the wall is what type of conditionality can be imposed. As Ted has mentioned and his colleagues have reaffirmed in a fairly explicit manner, the Russians have a tax structure at the moment that if it were fully enforced and fully complied with, would make everyone bankrupt. As a consequence, people are given the choice of paying their taxes legally and going bankrupt or not paying them at all. It is very difficult to be somewhere in the middle. The new Russian government is trying to put a tax reform bill through the Duma to get a much lower tax structure that is capable of being complied with and will therefore raise revenues. At the moment, their revenue shortfall is very large, and they are continuously required to fund it. Their need for revenues will inevitably go to the central bank as their ultimate and only source of funding. At that point the ruble will be

gone. Its value will essentially disappear. Some estimates are that it will decline by 50 percent. The geopolitical implications are very obvious. At the moment, it looks as though pressure is building to get the IMF to do something. It is not clear what will happen if that approach does not work or conditionality does not work. All I can say is that there is considerable anxiety among political authorities in this country about a potential collapse of the ruble in Russia. I do not know what the outcome will be.

VICE CHAIRMAN MCDONOUGH. The Russians are aggravating the problem further in their handling of their short-term workout, if there is one, by doing some borrowing in dollars and other hard currencies and pledging export earnings as collateral.

CHAIRMAN GREENSPAN. That gives them a day or two! President Moskow.

MR. MOSKOW. I want to return to Japan briefly. I had a question for Peter Fisher on the recent intervention. Can you tell us how market participants viewed this intervention and also what they see as the outlook for possible future interventions?

MR. FISHER. The intervention in which we participated on June 17 certainly took the market by surprise. We had a much bigger price effect than I and, I think, a number of my colleagues anticipated. Some large speculative players seemed to have been extending their long-dollar/short-yen positions, and as the yen strengthened from 146, where we entered the market, down to 142, they had to close those positions. That's why we had such a "pop" in the market. The market is wary of further intervention. Obviously, when people sustain significant losses on a mark-to-market basis and some of them close their positions, that gets the market's attention. I think the rate went to 142 much faster than most market participants thought it would. They expected it to take longer. It is worth noting that the rate has not yet returned to the previous high of 146.

CHAIRMAN GREENSPAN. Didn't it strengthen to 143?

MR. FISHER. It peaked this time in the high 142's, briefly touching 143. It is clear that the market is going to be on guard for further intervention. I would be the first to say that intervention without some message is not going to be very effective, as our South African friends found when they orchestrated their own intervention. The Bank of England joined with us in trying to warn them that trying to match the speculators dollar-for-dollar without some new message about what was going on probably would not have much effect. In fact, it was counterproductive. That kind of intervention creates the liquidity illusion that speculators can turn over their positions and get cheap dollars.

I should add that in terms of market expectations, the financial world was coming to an end as of just a week ago, and the Japanese were going to be completely incapacitated in the view of most foreign exchange traders. Clearly, the Japanese have been able to beat those low expectations! I alluded to some announcements and some comments that they made about permanent income tax cuts. So, the Japanese are beating the expectation that they would do nothing. That, I think, has helped to moderate the yen's movement over the last few days and has prevented it from going back up to 146. But much remains to be seen between now and the other side of the Japanese elections. I don't have the sense that the market is anticipating any imminent intervention. I think market participants are very curious about further announcements out of Tokyo. I hope that answers your question.

MR. MOSKOW. Yes, thank you.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. On the Japanese situation again, we received what I thought was a fascinating paper on the policy options available to the Japanese. It certainly emphasized the fact

that they need to do something that is fairly aggressive and strong on the fiscal side. The paper also discussed the topic that Al Broaddus brought up, namely, the potential for a depreciating yen to lead over some period of time to a recovery through an expansion in exports. In that regard, I was wondering whether the yen has actually depreciated on a trade-weighted basis.

MR. TRUMAN. It depends on which trade-weighted basis one uses. It is a fact that the yen has not depreciated as much on a broad trade-weighted basis--it has depreciated slightly on that basis--as it obviously has against the dollar. In fact, that is part of the argument. But having said that, as Peter Fisher pointed out in his reference to correlations, the problem is that to the extent that the yen weakens further and the won, the rupiah, and the Thai baht all weaken with it, it does not weaken relatively that much on a trade-weighted basis, but it does weaken relative to dollar. This is implicit in Peter Fisher's comments, and I would agree with that. In some sense, we have the chicken and the egg conundrum, but it is increasingly clear that Japan is the heavy occupant of the boat, if I may mix my metaphors. So, a lot depends on the health of the Japanese economy, as President Broaddus pointed out.

It also isn't clear on the other side that even if the yen depreciates, it is likely to provide much net stimulus to the Japanese economy. This is partly because it will not depreciate that much on average, and it's not clear that the associated income effects among Japan's trading partners in Asia will not overwhelm any yen price advantages relative to the dollar. I would not advocate a policy of letting the yen go, nor do I think the recent intervention was intended to promote any stabilization of the yen. Its purpose was at best to try to cause the markets to pause and think a little about what the fundamentals might be saying. There is some question, it seems to me, on that score. But the simple answer to your question is that the yen may be said to be back to where it was, but it depends a bit on what you take as your reference point or index.

CHAIRMAN GREENSPAN. Further questions for Peter? If not, would somebody like to move ratification of the foreign currency transactions since the last meeting?

VICE CHAIRMAN MCDONOUGH. Move approval, Mr. Chairman.

MS. MINEHAN. Second.

CHAIRMAN GREENSPAN. All in favor say aye.

SEVERAL. Aye.

CHAIRMAN GREENSPAN. Opposed? Without objection.

VICE CHAIRMAN MCDONOUGH. I also move ratification of the domestic operations.

CHAIRMAN GREENSPAN. Is there a second?

MR. KELLEY. Second.

CHAIRMAN GREENSPAN. Without objection. Thank you very much. We will now go to the staff report to be presented by Messrs. Prell, Stockton, and Hooper. Gentlemen.

MR. PRELL. We will be using the set of charts titled "Staff Presentation on the Economic Outlook."^{2/} But before I turn to the first exhibit, I want to take a minute to update you on the implications of the late-breaking data--particularly Friday's report on personal consumption. As you know, the downward revisions to spending in March and April, along with a mild downside surprise with respect to the May increase, left us on a path that makes it unlikely we will see the 5+ percent growth of real PCE that was predicted in the Greenbook. If we were starting afresh today, we would write down something in the low 4 percent range.

Some of the surprise in these data appears to have reflected a different split of auto sales between consumption and producers' durables, which does not affect GDP. But that is only part of the shortfall, and we would now trim our forecast for second-quarter GDP growth to about 1½ percent. Seemingly, some of what the GDP gods unexpectedly gave us in the first quarter they may have taken away in the second--still leaving us, though, with a quite impressive overall first-half performance for GDP.

^{2/} Copies of the charts are appended to the transcript. (Appendix 2)

Perhaps there was a more graceful way to start our presentation than with a correction of the Greenbook forecast, but at this point we do not see this news as undermining the major themes in the outlook that we will be addressing. So, let me turn now to the first chart, which provides a brief summary of our projections.

In the top panels, you can see that we are forecasting a marked slowing of the economic expansion. The thin red line shows the quarter-to-quarter movements in real GDP, while the black line captures the broader contours via a four-quarter percent change. We believe that growth will remain low over the next six quarters--indeed, considerably below the trend growth of potential output, which we put at almost $2\frac{3}{4}$ percent over this period.

Under these circumstances, we expect to see unemployment drift upward, as indicated in the middle panels. By the end of this year, the jobless rate approaches $4\frac{1}{2}$ percent and by the end of 1999, 5 percent.

Even with this rise, labor markets will still be tight, putting pressure on real wages and on prices as well. We see the CPI rising only $1\frac{3}{4}$ percent this year but picking up to $2\frac{1}{4}$ percent next year. In the chart, we have also shown the time series adjusted for technical changes to the index since 1994, the red line, so that you can get a sense of the "true" degree of deceleration and acceleration over time.

Chart 2 addresses some facets of the financial backdrop for this projection. We have once again predicated our forecast on the assumption that there will be no significant shift in the federal funds rate through next year. Although we anticipate that nominal bond yields eventually will back up a bit, as you can see in the top panel, there are no really exciting movements in real rates in the forecast. Given that the economy has been chugging along in the face of the current monetary policy setting--at least up to the current quarter--this might naturally lead one to ask what we think is going to produce the sustained weakening of aggregate demand growth we have predicted.

From the financial side, one answer is merely that we do not have a repetition of the decline in longer-term rates that has provided a boost to economic growth over the past year. But another answer can be found in our stock market forecast. We are anticipating a decline of just six percent in share prices, occurring over the next several months. As the middle panel shows, we estimate that this would roughly flatten out the price-earnings multiple on the S&P 500. I won't take up your time with the umpteenth restatement of our skepticism regarding the sustainability of these valuation levels. The panel points up just one extraordinary aspect of the market's performance--which is that the P/E is not only at an historic high, but that, in

contradiction of past patterns, it has reached that level well past the trough of the earnings cycle.

Indeed, it is our sense that the current market level reflects, in part, unrealistic expectations about future profitability. The lower left panel shows the divergence between Wall Street strategists' predictions for earnings and our own. One might argue that this difference is the stuff of a greater market correction, but the ability of the market to continue its levitation act thus far this year makes us reluctant to go much further than we have. In any event, the end of the stock market uptrend will itself remove another source of impetus to demand.

Finally, in fixed-income markets, we expect that, if and as the economy shows signs of persistently slower growth and weaker profits, lenders and bond investors will turn a bit more cautious. As you can see at the right, there has been only a slight widening of risk premiums in the bond market to date, and that reflected at least in part a heavy supply of new junk bond issues rather than a fundamental shift in investor attitudes. We expect spreads to remain relatively modest, but again, we see things moving in a less stimulative direction than they have over the past couple of years.

Of obvious importance for financial market sentiment and for demand trends in the economy is the denouement of the drama playing out overseas. And so, we turn now to Peter Hooper for his assessment of the outlook in that regard.

MR. HOOPER. Developments in international financial markets, which are reviewed in Chart 3, continue to be dominated by turbulence in Asia as Peter Fisher has indicated. Movements of exchange rates in that region, shown at the top left, can be divided into three groups of currencies: first, sharp declines in the dollar values of Korean and Southeast Asian currencies last fall, followed by some recovery and a further downturn more recently; second, a somewhat less pronounced but persistent decline in the yen; and third, still relatively stable currencies in Greater China and Singapore. Movements in Asian equity markets have paralleled those in currency markets across these groups, with equity prices in Southeast Asia and Korea turning down again in recent months after an early 1998 bounce-back, while those in Japan and China plus Singapore have shown much less precipitous declines since mid-1997.

Looking ahead, a central assumption underlying our forecast is that in the period ahead Japanese authorities will come to terms on and implement an effective resolution of their banking crisis. Bumps in the road will be inevitable; interruptions of credit lines and other uncertainties associated with the resolution process will weigh on real activity for much of the forecast period, but we expect financial markets eventually to be bolstered

by signs of progress. Against that background, we have assumed that the yen will be flat for the balance of 1998 and will appreciate somewhat during 1999. Our forecast has currencies elsewhere in Asia remaining about unchanged in nominal terms, with the exception of the Chinese renminbi, which we see depreciating moderately next year. The currencies of Korea and Southeast Asia should appreciate in real terms with rising inflation in those countries.

The middle two panels show developments in other key emerging markets. The recent decline in the real value of the Mexican peso is dwarfed by its earlier recovery from crisis-induced lows several years ago--the real peso is still nearly 20 percent below the pre-crisis highs reached in early 1994. Brazilian authorities have maintained a steady rate of depreciation in the real, and we assume they will be able to continue to do so. Russian authorities, too, have so far succeeded in keeping the ruble relatively stable in the face of growing uncertainties about Russia's economic prospects, but the odds of a sharp depreciation are rising. (Russia has too small a weight in U.S. trade to be included in our index for the dollar.) Stock markets in all three countries have retreated noticeably from earlier highs in the past year, feeling the contagion from Asian equity markets.

Among the major industrial currencies, shown in the bottom panels, sterling has strengthened recently, while the Canadian dollar has weakened against the dollar and the mark has moved roughly sideways since its sharp decline through the middle of last year. We project the mark/euro to appreciate somewhat over the year ahead as the new monetary union gains market acceptance. Our trade-weighted average of 29 currencies of industrial and emerging market economies follows a similar pattern. Stock markets in continental Europe have continued their strong advance in recent months, while those in the United Kingdom and Canada have leveled off or declined somewhat.

Turning to foreign economic activity, while observers on continental U.S. shores are still waiting for the tsunami to hit, our seismographs now indicate, for a second time, that the quake in Asia has been substantially larger than previously believed. The top left panel of Chart 4 shows how we viewed total foreign GDP growth and Asian real GDP growth prospects last September as Thailand's currency crisis was beginning to spread to elsewhere in Southeast Asia. At the time, we saw economic and financial turbulence as a downside risk for Asia, but with indicators for the third quarter coming in strong for the region as a whole, this risk did not significantly alter our baseline forecast for growth to remain near its historical trend rate of more than 5 percent. By the time of the January Greenbook, the panel at the top right of this chart, with the crisis having

intensified greatly and spread to north Asia, we had marked down Asia's growth for 1998 by more than 4 percentage points to less than 1 percent.

In recent weeks, news about the first quarter and preliminary indications for the second quarter have been far weaker than we anticipated, indicating that GDP has been plunging at unprecedented rates, as shown in the lower left panel. Our current forecast has Asia's GDP falling 3 percent during 1998 and picking up only very sluggishly, by Asian standards at least, in 1999. The level of GDP in that region at the end of the forecast period is 11 percent below the path we were projecting last September. We see total foreign growth, the black bars, rising over the next year and a half as the drag from Asia recedes.

The lower right panel shows the importance of various regions in U.S. exports--the weights used in constructing our foreign GDP aggregate--as well as their shares in total foreign GDP. Asia accounts for over 40 percent of foreign GDP but for 30 percent of U.S. exports and on that basis is divided into three roughly equal subgroups: (1) the front-line crisis economies of Korea and Southeast Asia, (2) Japan (which seems to be seeking membership in the first group), and (3) Greater China plus Singapore. Europe, Canada, and Latin America, shown at the bottom, each take about one-fifth, or a little more, of U.S. exports.

Turning to a closer look at these regions, your next chart focuses on the front-line Asian economies. The numbers here are mind-boggling but, I would caution, also very fragile and subject to substantial revision. In the first quarter of 1998, real GDP in Korea, Indonesia, and Malaysia dropped at annual rates in excess of 20 percent. Early indicators for many of these countries suggest large declines in the second quarter as well. The picture that emerges from our analysis of this free fall in GDP, based on some still very sketchy details and an accumulation of anecdotal reports, is indicated in the middle panel. Sharp contractions in consumption and especially in investment have resulted from four factors: first, massive adjustments of balance sheets as private wealth has plunged with the downturn in stock market, property, and other asset values and increases in the local currency value of foreign debt; second, growing uncertainty about job security and earnings prospects as unemployment and business failures have soared; third, cancellation of construction and investment projects following past overinvestment and growing excess capacity; and fourth, a widespread credit crunch and rising cost of funds. Credit availability has dried up as foreign investors have fled and as domestic banking systems have retrenched. Substantial increases in interest rates--as indicated at the lower left--have raised the cost of funds, although real rates have risen much less as inflation has ratcheted up in most of these countries and soared in Indonesia in response to currency depreciations.

As indicated in the lower right panel, trade balances in these countries have dropped sharply, primarily because imports have plummeted with the contraction of domestic demand. Korea's imports in the first quarter were \$53 billion at an annual rate, or nearly 40 percent below year-earlier levels, contributing to most of the \$63 billion increase in its trade balance over the same period. In most cases, exports have failed to rise appreciably, partly because of the contraction of trade credit but also because of falling export prices and the fact that a large share of the exports of these countries are to each other.

Returning to the top panel, in the two right-hand columns we are projecting further significant declines in activity in the second half of 1998 and only sluggish recovery at best next year. The near-term outlook for Indonesia is especially bleak, weighed down by ongoing political uncertainty, social unrest, and a paralyzed banking system. The likely prolonged absences of many ethnic Chinese, constituting a substantial portion of Indonesia's entrepreneurial and managerial expertise, also are resulting in critical breakdowns in the distribution system. Prospects in the other countries are somewhat less gloomy as some progress has been made on restructuring foreign debt. Current accounts in many cases have moved strongly into surplus, and macroeconomic stabilization programs are being adhered to. Once domestic financial conditions begin to stabilize, renewed access to international capital markets should help to support economic expansion, but probably not until later next year.

A linchpin for the prospects of stabilizing Asia's financial markets is Japan, the subject of Chart 6. As can be seen in the first line of the upper panel, GDP fell at a 5 percent annual rate in the first quarter, much more than expected. Consumption was weak, reflecting declining consumer sentiment and rising unemployment, as shown in the middle left panel. Sentiment fell further in April, while unemployment soared in April and leveled off in May, although the ratio of job offers to applicants weakened further in May to a 20-year low. These and other recent developments portend a significant further downturn in consumption in the second quarter. Investment dropped sharply in the first quarter and likely declined further in the second quarter. As shown in the middle right panel, the Tankan survey of business sentiment and the lending attitudes of Japanese banks tanked in the first half of the year. The drop in the latter series is evidence of a credit crunch associated with the growing crisis in Japan's banking system. Uncertainties surrounding the resolution of the banking crisis, as banks are closed, merged, or otherwise dealt with will continue to depress consumption and particularly investment in the second half of 1998, but we are assuming that private domestic demand will stabilize and begin to creep up next year as longer-term prospects for the financial system begin to brighten. The projected increase in GDP in the second half of this year is more than accounted for by fiscal expansion as the recently passed large

supplemental budget package more than offsets the contraction incorporated in Japan's initial 1998 budget. As indicated in the lower left, we are now assuming that the structural budget deficit will weaken by $\frac{3}{4}$ percent of GDP this year and a bit less next year. We also expect net exports to make a modest positive contribution to GDP growth, as indicated at the lower right, with real imports contracting somewhat further and exports receiving some stimulus from the depreciation of the yen.

Turning to the third group of Asian economies, Greater China and Singapore, growth in China has slowed noticeably from the near double-digit pace of a year ago, as both exports and direct foreign investment inflows have declined sharply. We are projecting growth to come in well below the government's target of 8 percent during 1998 and to recover somewhat in 1999. We assume, though with diminishing conviction, that the Hong Kong peg will hold despite the beating that the Hong Kong economy has been taking. Hong Kong's GDP fell at a 10 percent annual rate in the first quarter following a downward revised fourth quarter. The spike in interest rates late last year, shown in the middle left panel, in response to pressures on the Hong Kong dollar along with massive corrections in equity and property values have weighed heavily on domestic demand and will continue to do so well into next year.

The bottom two panels summarize changes in the combined external balance of all ten major Asian economies. As shown on the left, we expect the combined current account surplus of this region to be well over \$200 billion this year, up from less than \$50 billion in 1996. A rough indication of how this massive shift is being distributed around the globe is shown at the right, based on trade data for eight of the ten economies. Between the first quarter of 1997 and the first quarter of 1998, the combined trade surplus increased \$151 billion. Of this total, \$36 billion was in trade with the United States and \$41 billion with Europe. In both cases, Asia's imports fell and exports rose by similar amounts. The \$50 billion decline in Asia's imports from itself, and hence identical decline in its exports to itself, reflects a sharp contraction in intra-Asian trade as demand in the region has plummeted. There was also a sharp drop in imports from the "other" region, largely OPEC and Latin America, reflecting in part declines in the volume and price of oil imports.

Your next chart touches on the rest of the world. Despite the negative surprise in Asia, growth in Europe came in at a healthy 3 percent annual rate in the first quarter. As indicated in the second panel on the lower left, net exports made a large negative contribution to Europe's GDP growth in the first quarter, partly because of a surge in imports and partly because of a slowing of exports to Asia. In contrast, Canadian net exports benefited from strong demand in the United States. The net export drag in continental Europe was offset by robust growth in domestic demand, supported by low

or declining interest rates, shown at the right. U.K. interest rates have been rising, however, as the unemployment rate, shown in the third panel on the lower left, has declined further, and consumer price inflation, shown at the right, has moved above the Bank of England's 2.5 percent target range. Looking ahead, we project growth in Euroland to continue at a fairly robust pace, buoyed in part by "europhoria," while growth in the United Kingdom and Canada should slow somewhat.

The bottom two panels address developments in Latin America. Negative effects of the Asian crisis have been felt by the major countries in this region. Brazil's GDP will be depressed this year, partly by a run-up in interest rates in the wake of the Asian turmoil last fall. Brazil's problems are also home grown, including persistently large fiscal and external deficits and growing political uncertainty as President Cardoso faces a tough challenge from labor candidate Lula ahead of the elections in October. Mexico has been hurt by the drop in oil prices, and the region as a whole is facing higher spreads in international credit markets. Assuming the situation in Asia stabilizes by next year, we expect growth to pick up in Mexico and Argentina. However, this means a further widening of the region's current account deficit, shown at the right. In the case of Mexico, we can begin to anticipate its own special Year 2000 problem in connection with its 6-year presidential election cycle.

Chart 9 reviews the implications of these developments for U.S. exports and imports. Recent movements in U.S. exports by region reflect the differing trends in activity abroad. Exports to Europe and Canada have been on an uptrend, while shipments to Asia dropped sharply in the first quarter. Imports, shown at the right, rose in the first quarter from all regions except Asia. However, there appears to be some uncaptured seasonal variance in these data; imports from Asia were well above their level of four quarters earlier, roughly consistent with the view we get from Asia's export data.

As shown in the middle left panel, real net exports of goods and services declined in the first quarter and, given the substantial drop that occurred in April, we expect a more significant decline in the second quarter. Thereafter, a slight increase is projected for the second half of 1998 and a somewhat faster expansion in 1999, roughly in line with the projected pickup in total foreign GDP growth. Real import growth, shown in the middle right panel, should slow in the second quarter and beyond in response to the decline in U.S. GDP growth. The bottom line for real net exports, as shown in the lower left panel, is another substantial negative contribution to GDP growth in the second quarter, about 1½ percentage points, followed by lesser negatives in the second half and next year. The ongoing declines in net exports push the current account, shown at the right, below minus 3½ percent of GDP by the end of 1999. This level matches the

previous low that occurred in 1987, a period of considerable weakness in the dollar.

MR. PRELL. I think the domestic demand picture is sufficiently familiar to you that I can run through the highlights quite quickly. We are expecting a substantial deceleration of both household and business spending. Chart 10 summarizes the household side. The Greenbook predicted a quite noticeable drop-off in the growth of consumer spending in the wake of the first-quarter surge, and the latest data suggest that that slowing has come a bit faster than the previous figures had indicated. But, even 4+ percent in the second quarter is a pretty hefty further gain, and the fundamentals at this point are still highly favorable to demand. So, we would be inclined to stick with the general contour of the forecast represented by the heavy black line in the upper left panel, which shows the four-quarter change in PCE dropping off from over 4 percent at this point to something closer to 2½ percent in 1999. One indication of the favorable fundamentals is the still high reading on consumer sentiment in the June Michigan survey, portrayed at the right. For many households, I suspect that the rising value of their stock portfolios has been a significant source of their confidence and willingness to spend. The middle left panel documents the remarkable run-up in the ratio of wealth to income, the black line. Historically, the personal saving rate has tended to move inversely with the wealth ratio, and the current episode is no exception. The anticipated decline in share prices implies a drop in the wealth-income ratio over the next year and a half and--allowing for lags--this contributes to a leveling out of the saving rate, thereby explaining the moderation of spending growth.

In the housing market, all signals on demand are still flashing green. Yesterday, the Census figures showed new home sales edging up to a new high in May, and--as plotted at the right--the homebuilders' survey for early June showed their index of sales activity also setting a record. As we look ahead, a modest updrift in mortgage rates in combination with a slowing in employment and income gains will take some of the "oomph" out of the market, but, as shown in the bottom left panel, housing affordability as measured by the cash-flow burden of ownership will remain very favorable. Thus, we are projecting a decline in housing starts that leaves the level still comparable to the high readings of the past few years.

Turning to the next chart, which relates to business spending, the upper left panel highlights one of the most important elements in the dynamics of our forecast. Over the past year, a significant component of the growth of GDP has been the rise in the pace of inventory accumulation--the black line. Stocks have been rising much faster than the trend of final sales--the red line. This is not a sustainable pattern, and we think we see signs in the April data that a drop-off in stocking may be in the cards. We still have a sizable accumulation of non-auto stocks in the current quarter, however, and so we

expect that a further slowing of inventory growth will be putting a considerable damper on demand over the second half of the year.

As the expansion of demand is perceived to be slowing, businesses will likely be less anxious to invest in plant and equipment as well. The black line in the right panel shows that we are projecting that real BFI growth will slow from about 12 percent over the past year to half that pace in 1999. Because the level of investment will still be rising, though, we estimate that this forecast implies that capital stock growth, the middle left panel, will remain substantial--exceeding the pace of output expansion.

Although we believe that declining capacity utilization will be causing discomfort in some sectors--especially in manufacturing--there are some basic considerations favoring a rise in the desired capital-output ratio. An obvious one is portrayed at the right: the declining relative cost of equipment, particularly computers and communications equipment. It is with the expectation that the prices of such information technology will continue to decline rapidly that we are predicting that investment in capital equipment will continue growing at a good clip through next year.

As you can see at the lower left, the data on new orders booked by domestic manufacturers of nondefense capital goods are already providing a possible hint of the projected pattern of investment, with orders for computers and communications equipment having risen appreciably, even in nominal terms, this year, while orders for other equipment have leveled out. I should note, however, that it is tricky to translate these data into GDP expenditures, given that international trade is so important in this sector.

Finally, we are predicting that the structures component of BFI will be rising modestly over the coming quarters. As suggested by the vacancy rates at the right, trends and conditions differ across the various markets, but it is our sense that there are enough areas of strength to push aggregate construction somewhat higher. The recent upturn in the monthly data on construction was heartening in this regard; but, frankly, we are not yet sure whether the latest data are reflecting an actual change or simply the first stage of a statistical improvement that will be followed up subsequently by significant upward revisions to the historical time series.

But, before I lapse into further discussion of statistical arcana, let me turn the floor over to Dave Stockton for a more important subject--the outlook for inflation.

MR. STOCKTON. The upper panel of your next exhibit lays out the key components of the supply side of our projection. We use a variety of approaches for estimating potential output. The one displayed here is a growth accounting framework. As may be seen on line 1, we are projecting

that growth of potential output, on a consistently measured basis, will be $2\frac{1}{2}$ percent per year during the 1995 to 1999 period. This translates into a $2\frac{3}{4}$ percent increase by 1999 after allowing for the technical changes in the CPI. The growth of potential output is more than $\frac{1}{2}$ percentage point higher than the pace estimated to have prevailed over the first half of the 1990s. Labor input--line 2--is projected to increase at a 1 percent annual rate, close to the average pace observed earlier this decade. But we now estimate that trend growth in labor productivity--line 3--has picked up to a $1\frac{1}{2}$ percent pace per year. As you know, we revised up this estimate by about $\frac{1}{4}$ percentage point in the May Greenbook, and we expect that this faster pace will continue over the forecast period.

The two principal elements behind this pickup in trend productivity are capital deepening and multifactor productivity. As Mike noted earlier, the high level of business investment has boosted the growth of the capital stock, and with it capital services. As shown on line 4, we estimate that the accompanying step-up in capital deepening has contributed a bit more than $\frac{1}{2}$ percentage point to the acceleration of trend labor productivity. Multifactor productivity--line 6--which captures the efficiency with which capital and labor inputs are utilized, is projected to be on an upward trend of about $\frac{1}{3}$ percentage point per year, well above the average pace of the preceding 15 years.

As we see it, there are risks on both sides of our projection of trend productivity. On the downside, productivity is a sensitive cyclical variable and extracting the trend from the cycle in the midst of a strong upswing in activity is exceedingly difficult. It's possible that the recent improvement in labor productivity will prove less durable when output slows than we are currently assuming. On the upside, multifactor productivity in the past couple of years grew faster than the $\frac{1}{3}$ percentage point per annum that we have pencilled in as the trend. Moreover, the explosion of investment, especially in the high-tech area, suggests that businesses are anticipating ample rates of return that would be consistent with some greater increase in the marginal efficiency of investment.

As you can see from the dashed extension of the black line in the middle panel, we are projecting that actual labor productivity will grow a bit more slowly than trend, on average, over the next six quarters. In part, we anticipate that productivity will exhibit a fairly typical slowing when activity decelerates as, for a time, employers continue to fill outstanding vacancies. We also have incorporated a minor dent in productivity growth--on the order of a tenth or two in 1998 and 1999--for the diversion of resources to addressing the Year 2000 problem.

With regard to labor input, the abundance of job opportunities in this tight market has lifted the labor force participation rate--the lower left

panel--to a level above our estimated trend. Going forward, we anticipate that, with jobs remaining readily available and real wages rising, the participation rate will hold roughly constant at 67.1 percent.

The flat participation rate implies that the growth of the labor force--the first column in the lower right panel--should mirror the roughly one percentage point per year expansion in the working age population. Employment growth--the second column--is projected to slow considerably, in lagged response to the downshift in activity. To place this in some perspective, we are looking for payroll employment to slow from average increases of more than 250,000 per month over the past year to about 100,000 per month next year.

Turning to the upper left panel of Chart 13, with the growth of employment dropping below that of the labor force, the unemployment rate is projected to rise gradually to a shade below 5 percent, relieving only some of the pressure on what is a very tight market. Anecdotal reports continue to stress the difficulties that many employers are experiencing in finding and retaining workers--difficulties that are especially acute in hot fields such as information technology. These perceptions appear to be shared by households. As shown in the upper right panel, the proportion of respondents to the June Conference Board survey viewing jobs as plentiful outstripped those reporting jobs as hard to get by a wide margin, in a dramatic reversal of the situation that existed earlier this decade.

The influence of taut markets on labor compensation is likely to be reinforced over the next year and a half by continued acceleration of health insurance costs. A recent Peat Marwick survey of large firms found that health insurance premiums are expected to rise about $3\frac{1}{4}$ percent this year--a still modest increase but one that is, nonetheless, the highest in four years. We are anticipating an extension of this uptrend next year--consistent with the reports of outsized increases that are scheduled to take effect or that are under negotiation.

That said, not all of the influences on labor compensation are likely to be in the upward direction. We are not anticipating a repeat of the minimum wage increases of the past two years. Moreover, as we noted in the Greenbook, bonuses, commissions, and other forms of flexible compensation that are tied to business performance should level out or turn down next year, as activity slows and profits edge lower. More broadly, most measures of inflation expectations have moved down over the past year. The Michigan SRC results--plotted in the middle right--have moved up a bit recently but on net are still below the readings of the past few years. Low past and prospective inflation should be a source of restraint on wage determination over the next year.

On balance, the growth of ECI compensation per hour--shown by the red line in the lower left panel--is projected to be about flat this year and next, near its recent 3½ percent pace.

Turning to the upper left panel of Chart 14, these nominal increases have translated into relatively rapid gains in real wages, especially measured in terms of product prices. As may be seen, gains in real compensation per hour outstripped the growth in trend productivity last year, and the gap is expected to remain wide this year and next. As a consequence, the markup of prices over trend unit labor costs--shown in the upper right panel--is expected to move down still further in coming quarters.

One of the main factors behind this apparent restraint on the pricing power of businesses has been the rapid expansion of productive capacity. Manufacturing capacity utilization, shown in the middle left panel, essentially has been moving sideways at a relatively neutral level for about two years. Moreover, we anticipate that the weakening of activity in the factory sector will result in some reduction of utilization rates over the next year and a half. Consistent with the view that there are few pressures on industrial capacity, purchasing managers' reports on vendor performance--the right panel--have been nearly balanced in recent months between those reporting slower deliveries and those reporting faster deliveries.

In addition to ample domestic capacity, the spill-over from Asia has left a clear mark on global commodity markets and should provide some further damping of inflation pressures. Non-oil commodity prices--the lower left panel--have plummeted over the past year, and we are not anticipating much if any recovery in these prices over the forecast interval. A rather similar story has been apparent in oil markets. Weakening world demand and excess inventories that built up over the warm winter have pushed prices sharply lower in recent months. We are expecting efforts by OPEC and non-OPEC producers to result in only a limited rebound in the spot price of West Texas intermediate--the black line in the lower right panel--from its average level of about \$13.50 per barrel in June to about \$16.00 by early next year.

The steep drop in oil prices that has occurred to date is expected to depress consumer energy prices--the black bars in the upper left panel of Chart 15--by about 5½ percent this year. And, next year, retail energy prices are anticipated to retrace only a small part of this year's decline. With regard to the agricultural outlook, considerable uncertainty always attends our forecast at this point in the year. But, in brief, we are not projecting any significant disruptions to production that would move food price inflation--the red bars in the panel--off the moderate pace of the past year or so.

The decline of core non-oil import prices--the upper right panel--is projected to steepen to a $2\frac{1}{4}$ percent rate this year, after decreases of about $\frac{3}{4}$ percent in each of the past two years. Although we do not anticipate any sharp reversal, these prices are likely to turn up next year as the dollar retraces some of its recent gains and as prices on world commodity markets stabilize after their recent plunge.

Slumping import prices and ample domestic capacity in the goods sector have resulted in somewhat greater disinflation among consumer commodities--the blue line in the middle panel--than among consumer services--the black line. The $2\frac{1}{2}$ percentage point gap between goods and services inflation that has opened up recently is larger than the historical norm. And, we are expecting the gap to remain relatively wide over the next six quarters.

All told, we expect the total CPI--line 1 in the lower panel--to pick up from a $1\frac{3}{4}$ percent pace this year to a $2\frac{1}{4}$ percent rate in 1999, pushed up largely by less favorable price developments for energy and imports. As you know, the stability that we are showing in our forecast of the core CPI--line 2--masks an underlying acceleration of these prices. On a technically consistent basis--line 3--we expect a pickup in core CPI inflation of about $\frac{1}{2}$ percentage point between 1997 and 1999.

We present these technically consistent figures in the Greenbook in order to facilitate a comparison of our forecast with the historical published data. But, that should not obscure the fact that we believe that changes being made to the CPI are making it more accurate over time. Line 4 in the table--labeled "actual" CPI excluding food and energy--provides a somewhat different slant on this issue by adjusting the historical and projected core CPI for our estimate of the bias in each year. Viewed from this perspective, the $\frac{1}{2}$ percentage point acceleration that we are projecting boosts core CPI inflation from slightly above 1 percent in 1997 to a bit less than $1\frac{3}{4}$ percent in 1999. The final line in the table displays our forecast for total GDP prices adjusted for measurement bias. On this basis, we project GDP prices to rise about $\frac{3}{4}$ percent this year and a bit more than 1 percent next year.

Chart 16 addresses two risks to the forecast. First, in light of recent disappointing events in Asia, we consider a still more pessimistic scenario for that region that hinges on upcoming events in Japan. Although there have been some signs recently that the Japanese government finally will act decisively to deal with its banking crisis, this is by no means a foregone conclusion. An unfavorable outcome in the Upper House elections in two weeks or growing concern about the negative effects of the credit crunch could still result in policy inaction, leading to a sharp further decline in the yen; we have picked 175 yen per dollar as the bottom in this scenario,

though considerably weaker numbers have been bandied about in recent market commentary. In this scenario, we assume that the Hong Kong and Chinese currency pegs would give way and that resulting financial market turmoil would drag Asian GDP down another 7 percent below baseline by the end of 1999. We also assume that the contagion would spread to Latin America and Eastern Europe, with reductions in growth there. Finally, we assume that the U.S. stock market would take a 20 percent hit. In brief, this is not yet the black hole scenario, but it is taking a few steps closer to the edge. Running this scenario through the staff's model with the federal funds rate held unchanged, and allowing for feedbacks to imports, we get a reduction in U.S. real net exports, as shown by the gap between the red and black lines at the right, of about $\frac{1}{2}$ percent of GDP by the end of 1999, roughly similar to the markdown in net exports since the January Greenbook shown by the blue line. The effect of this shock on U.S. exports is larger, eventually reaching 1 percent of GDP, but feedbacks that reduce imports also cut the decline in net exports. In contrast, a good deal of the decline in net exports since January occurred because imports were stronger than expected.

The second alternative scenario is a dollar depreciation. If events in Asia turn out as our baseline forecast assumes, with markets beginning to dwell less on Asia's problems, two factors could begin to weigh heavily on the dollar. One is events in Europe. With jitters over the introduction of the euro out of the way and confidence brimming with robust growth in Euroland, there is a risk that the dollar's rise against European currencies over the past year and a half will be reversed. Similarly, with conditions in Asia beginning to stabilize, the outsized U.S. trade deficit and Asian trade surpluses will attract growing attention in the markets. In this scenario, we have the dollar fully reversing its rise since 1996, with the mark/euro going to 1.40 and the yen to 120 by mid-1999. As indicated at the right, this 17 percent depreciation of the dollar generates an 8 percent increase in core import prices by the end of 1999.

The implications of these scenarios for U.S. GDP growth and inflation are shown in the bottom panel. With the federal funds rate held unchanged, the pessimistic Asia scenario would reduce GDP growth to 1.3 percent in the second half of 1998 and to less than 1 percent in 1999. The drop in the stock market accounts for more than a third of the effect. The dollar depreciation would raise GDP growth through stimulus to net exports. As indicated in the last line of the table, it would also raise CPI inflation above 3 percent in 1999 and close to 4 percent in 2000. Mr. Prell will now continue our presentation.

MR. PRELL. The last exhibit is the usual summary of the projections you submitted for Humphrey-Hawkins purposes. If you scan down the second column, where we have listed the central tendencies, you will see

that most of you are expecting real GDP to grow 3 to 3¼ percent over the four quarters of 1998, with CPI inflation running 1¼ to 2 percent for the year and the jobless rate holding in a 4¼ to 4½ percent range. This is a stronger, more inflationary forecast than ours, and you remain slightly to the high side of the Greenbook in 1999. The central tendency range for GDP growth next year, at 2 to 2½ percent, allows the unemployment rate to inch upward to between 4½ and 4¾ percent, but inflation also edges up, into the 2 to 2½ percent range.

We have included in the table the Administration's forecasts, because these must be addressed in the Humphrey-Hawkins report. As you can see, in the mid-session budget review document, the Administration predicted smaller increases in nominal and real GDP than your tentative central tendency ranges for the two years and a tad less inflation, on average. I have my doubts, though, that this will lead to harsh criticism from the Administration that you are intending to pursue an excessively accommodative monetary policy!

This concludes our presentation, and we will be happy to answer any questions you might wish to raise.

CHAIRMAN GREENSPAN. I think that was one of the better presentations this Committee has heard in a while. The outlook is very complex, and I think you all handled it exceptionally well.

Peter, what is the potential outcome in Latin America of current account deficits that appear to be getting out of hand? There seem to be political and other obstacles in Brazil, Argentina, and perhaps Mexico to taking the types of actions that would lead to stabilization in those countries. Concurrently, we may have an even worse situation in Russia. Do you have breakdowns stemming from contagion in your simulations for those areas?

MR. HOOPER. In the more pessimistic simulation that we did, we had Asian growth falling by somewhere between 5 and 10 percent at an annual rate across countries. We assumed that this weakness would spread to Latin America and growth there would fall on the order of 2 to 3 percent. There is obviously a risk that it could fall a good deal more.

The situation in Latin America is a bit reminiscent of that being experienced a little less than a year ago in Asia. We are seeing some turbulence in Latin American financial markets, but the current indicators in that region look fairly strong outside of Brazil. We have seen indications of slowing economic activity in some of those countries but also a fair amount of good news. There seems to be optimism in Argentina where domestic demand is growing fairly strongly. Mexico has been hurt by the drop in oil prices, obviously, but domestic demand there seems resilient. Nevertheless, given the widening current account deficits we see in those countries, and perhaps a little overvaluation of their currencies, though nowhere near as much as we had in Mexico in 1994, there clearly is a risk in that part of the world. In Brazil, growth has been sharply reduced by monetary tightening in response to currency pressures, and risks remain high given that country's large fiscal and external deficits and the fact that President Cardoso is in a close election race with the leftist labor candidate, Mr. Lula. We thought the pessimistic scenario we picked was a plausible one that would involve a fair amount of contagion following a failure in Japan. There is no question that it could get a good deal worse.

CHAIRMAN GREENSPAN. David, in Chart 14 you have a table that shows real compensation per hour and trend productivity. Is that real consumption per hour number deflated by the CPI?

MR. STOCKTON. It is deflated by the nonfarm business price index. So, it is a product price deflator.

CHAIRMAN GREENSPAN. Further questions for our colleagues? President Broadus.

MR. BROADDUS. I have a question, Mr. Chairman, but first I would like to echo your comments about the staff presentation. I have been watching these presentations for a long

time, along with Ed Boehne, and I thought this one was particularly well done, especially the focus on the international context.

My question has to do with inventories. I have seen a fair amount of commentary recently to the effect that a good part of the buildup in inventories in the first quarter, more than normal, involved imported goods. I was looking for some reference to this in the Greenbook, but I didn't see any. The commentary suggests that the inventory correction may have a relatively small impact on the behavior of final demand in the United States going forward. Is there anything to that?

MR. PRELL. As you know, there are no direct observations on this. One significant element in the rapid accumulation of inventories in the first quarter was oil. Clearly, the greater flexibility in supply in the short run will be on the import side as opposed to domestic production. So, as that buildup in oil stocks unwinds, we would expect the impact to be more on the import side. Actually, we have seen some further accumulation in the second quarter as best we can tell. The buildup has gotten to the point where there is not much more room for storing oil. Some is probably being stored on ships in distant places on the oceans. We expect this continuing accumulation of oil inventories to end in the near term.

Outside the oil sector, if we look at the normal ratios of imports to various categories of domestic expenditures, I think we can make a case that a very substantial component of the inventory pickup in the first quarter was probably in imports. There have been anecdotes to the effect that some stock building has occurred to take advantage of bargains that were available either in components or in finished goods. So, yes, we think that while a complex interaction is involved--just because something was imported doesn't mean that the offset will be in imports in

the future; the adjustment could still involve displacing domestic production--our forecast contemplates this in terms of our overall import growth and our domestic spending patterns.

CHAIRMAN GREENSPAN. We did get a calculation that supports what Mike Prell is saying. On average, about a quarter of inventories are imported goods. Assuming all of the increase in oil inventories in the first quarter was imports, considering the limited capacity of the domestic production system, and making a lot of assumptions with respect to the shares of different types of industry inventories that are imported or not imported, we end up with a shade more than a third of the inventory buildup being imported out of the one hundred-odd billion dollar annual rate increase in the first quarter. So, there is no question that the first-quarter buildup is comprised disproportionately of imports but not predominantly so. The bulk of the inventory change in the first quarter involves domestic production. Governor Kelley.

MR. KELLEY. Mike, on Chart 10 you have a fairly dramatic decline in the growth rate of real personal consumption. I understand that part of that comes from the peaking of the wealth-to-income ratio--the stock market weakness. What other factors create that downdraft?

MR. PRELL. Part of it is simply an assessment of what the underlying trends would be and the fact that consumer spending was at such a high level in the first quarter. Even if second-quarter consumer expenditures were to drop off to the 4 percent plus growth area, or somewhat below our forecast, the first half would still be very strong. That is a significant element in the picture. Another is that the second quarter would be weaker still were it not for the extra incentives that were provided for auto purchases, and that is a factor that will reverse in the second half of the year. So, it is distorting the intra-yearly pattern.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. I would like to make three comments. The first is a plea on terminology dealing with net exports. We know as a matter of arithmetic that $I + C + G$ minus net imports equals output; that is arithmetic. But to say that net imports are a drag on output is making an assumption about causation that I do not think should be there.

MR. PRELL. I think we crossed the Rubicon on this. We recognize that it is hard to express this thought, but we have come to the conclusion that everyone understands this area.

MR. POOLE. I'm not so sure about that, but I think it is very easy to express that in a different way. We can simply say that total spending exceeds total output when net exports are negative. I think it is too easy to slip into a wrong frame of mind on this. My plea is to be accurate on the terminology here.

Secondly, when I looked up oil price futures in the newspaper this morning, August of this year to August of next year, I saw Brent oil futures going from \$14 to \$17 per barrel. I think that is a substantially larger increase than you have, so you might want to comment on why your view differs from that in the futures market.

Thirdly, and this is the most important comment, it seems to me that the internal structure of your forecast makes perfect sense if growth in final sales slows. The components of the forecast would be internally consistent. But I still do not understand where the drive to slow the growth of aggregate demand comes from. The real federal funds rate is falling during this period because you have the CPI rising and presumably inflation expectations, at least in the model, are consistent with the CPI. We assume the market is smart and sees what is going on so that the real funds rate is falling. The only retarding influence in the forecast is the impact from Asia. It reminds me a lot of the debates when I first came into this profession in the late 1960s when we were hanging everything for a slowdown of the economy on federal fiscal restraint.

The Asian impact is very much like a restraining fiscal policy. We all know what happened in the late 1960s environment. The fiscal restraint in 1968 did not in fact slow the economy. So, I am very worried that we are putting much too much weight on Asia in this outlook and that we are not paying enough attention to the underlying strength of aggregate demand as driven by very accommodative monetary and credit conditions.

MR. PRELL. Peter Hooper will say something in response to your question about oil prices.

MR. HOOPER. Just to address the oil price question, I think the jump in the futures reflected OPEC's recent agreement to cut production by somewhat more than we had assumed in our forecast. Our oil experts doubt that OPEC will come through and actually restrain production as much as the agreement suggests. But there is some upside risk in the oil price forecast in light of these very recent events.

MR. PRELL. I think one has to ask, too, whether the current prices are not abnormally low because of the oil storage constraints. We are getting a contango in the market that may be extreme. There also are some fine points in the current situation that may be exaggerated.

MR. TRUMAN. Peter Hooper is right. You are a little ahead of us in terms of looking at the newspapers this morning. The Greenbook as of the time it went to bed actually had an implied monthly forecast through the end of the year that was almost the same as the market futures. There was a slight variation as we went out into 1998, but I think that was largely a function of the market's adding some risk premium about uncertainties such as whether Iraq will continue to produce and so forth. That actually has been a feature of most of the recent forecasts in the sense that we go with a point estimate of supply and the market has more of an

uncertainty band around it and therefore has a risk premium built into it after six months out. But through December as of the time the Greenbook went to bed, the forecasts were very close. More recently, as Peter said, we had the OPEC announcement on Tuesday and the current market may now have a somewhat different interpretation than the one we assumed before we learned about the OPEC decision.

MR. PRELL. As to the general outlook for domestic demand, your point is well taken. There is an alternative view in which the multiplier-accelerator effects that flow from the external shock and the inventory investment correction are inadequate to precipitate the kind of slowing of employment growth and domestic demand expansion that we are anticipating. Were the stock market to continue going up, that would certainly add something to the prospective growth of domestic demand. We have been surprised repeatedly in the last couple of years, and I cannot rule out a further surprise. On the other hand, one could point to some risks on the other side. We have had very high rates of accumulation of consumer and producer durables. The capacity utilization rate in manufacturing is already below its historical average, and if indeed profitability begins to wane and manufacturers decide they want to cut back some more, there could be a weaker business investment picture than we have projected.

We think this is a reasonably balanced forecast. Our model simulations in effect say that we currently have rather high real interest rates. If we take out the extra stimulus that has been coming from the outsized increase in share prices, at least as many models would interpret that stimulus, we then have this factor weighing on demand going forward. So, I think a case can be made on either side of this forecast. I cannot rule out your being right. If you had said this a year ago, we would have been in the same position and you would have been proven to be the one who was correct.

CHAIRMAN GREENSPAN. There is an interesting issue here. Everyone has been wrong by underestimating domestic demand and wrong in the other direction by overestimating inflation. The area where the error is crucial has been productivity because as productivity growth has accelerated, expectations about earnings over the long run have moved up. This has created a major increase in stock prices and a virtuous circle wealth effect. We end up with (1) much higher domestic demand and (2) lower prices because of the acceleration in productivity that has occurred. The Greenbook forecast incorporates a significant slowdown in earnings growth, which in turn comes largely from a slowdown in productivity gains. If that happens, then the growth in spending on capital goods also slows and that creates some negative internal multipliers that conform total spending to the Greenbook forecast of much slower expansion in demand. The only thing that presumably could keep the stock market on a rising trend is that we are wrong again on productivity. That would mean that earnings expectations, which are now in the area of 13 or 14 percent over the five-year time frame used by security analysts, would continue to move up, stock prices would continue to move up, and effective demand would continue to rise quite substantially. The unanswered question is what would happen to inflation in that context. That is why I think the crucial error in our forecast models has been the productivity numbers. I believe it is a mistake to view the issue of having been wrong on the real side independently of also having been wrong on the inflation side. The implication of the analysis we have relied on is that if domestic demand is consistently underestimated in the future and the Greenbook is wrong, inflation will be stronger. That is not necessarily true because the effect on inflation depends on where the domestic demand is coming from.

I would say at this point that we have a very tough set of forecasts to make on both sides. I am not terribly certain where the balance effectively may be. My own concern, as I will

try to express tomorrow, is that the odds of a very significant negative effect in the international area, while still low, are rising. That is where the big downside potential lies. The upside potential is that the stock market will continue to rise independently of any productivity changes, and we will get serious inflationary pressures coming largely from the wage side, as we discussed. I think we are in an area now where both the upside and the downside risks are much larger than we have been presuming. I am not sure that we can merely look at whether we are underestimating the demand side. We may well be doing so, but it is crucially important to determine why.

MR. PRELL. There is an obvious circularity in our forecast in that, were it not for the slowing of demand, we would not have the cyclical deceleration in productivity that Dave Stockton talked about and the related deterioration in profits. It's not that we are anticipating any deterioration in the productivity trend. In fact, we are anticipating a continuation of the more favorable trend that we have estimated for the past couple of years. It has been in a sense a supply shock of the type President Jordan has talked about a number of times. That supply shock, working through the stock market as you described, has created the compensating aggregate demand to absorb that additional supply. In a sense, as we have shown in simulations in the past, we need a higher real interest rate to equilibrate things in the face of that kind of shock.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Peter, I just wanted a few more details on the pessimistic Asia scenario. When you start out with the yen depreciation in that scenario, do you "add factor" down any other parts of Japanese aggregate demand or is that the hit on it?

MR. HOOPER. We "add factored" both the yen and aggregate demand.

MR. MEYER. Okay.

MR. HOOPER. We stipulated that we were going to reduce growth. What we did was to impose an exogenous negative psychological or confidence effect on Japanese aggregate demand in the model. Everything else equal, if the yen were to depreciate to the extent that it does in the pessimistic scenario, the model would normally give us a rise in Japanese GDP. We stipulated that this was a combination of a currency shock and an aggregate demand shock through confidence effects.

MR. MEYER. So, the falling Asian GDP is imposed exogenously. Let us come back, then, and follow through on President Broaddus's suggestion that we let the yen depreciate, whether it is to 160 or 175. If you had not imposed the exogenous shocks to aggregate demand in Japan and the rest of Asia and had just assumed that the prevailing weakness in Japan, if we stepped back and allowed it to happen, would lead to this depreciation, how would that have changed your overall view of this picture?

MR. HOOPER. If all you do is let the yen go, this is positive for Japan. The effect of this currency shock on the rest of Asia is not that large in the model. The model does not pick up the related uncertainty and confidence effects.

MR. MEYER. So, the Chinese currency would hold and the Hong Kong spillovers would be contained.

MR. HOOPER. Another shortcoming of the model is that it does not capture borrowing denominated in foreign currencies, and the wealth effects are rather minimal.

MR. TRUMAN. Governor Meyer, I think the problem here, if you want to put it in a slightly different way, is that these Asian countries whose currencies have lost 30, 50, or 80 percent of their value and have negative growth rates of 20 percent of GDP present a challenge

for economics to explain. Whether we talk about the functioning of the economy as working through the financial markets or other dimensions of the confidence process, it is certainly a reasonable proposition that we do not have to have simultaneous currency depreciations and negative growth. But it is also, I think, a reasonable proposition that this kind of accelerated free fall of currencies more often than not is associated with declines in real GDP rather than increases in real GDP. Declines do not occur in all circumstances. There was a depreciation of sterling and the lira in the fall of 1992, and that was positive for European growth. In the context of a financial crisis, which Japan certainly is experiencing, it is hard to imagine that a depreciation of the yen in the short run would actually improve growth in a substantial way.

MR. MEYER. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. I want to ask a general question about the way we think about Japan. This may build on Governor Meyer's question. A number of the Committee members recently have been in Japan, and I would be interested in their views about the problem and potential solutions, as well as staff comments.

We sometimes read commentaries about Japan that, it seems to me, are based on a premise that it has an economy that tends to stagnate or decline in the absence of some type of monetary or fiscal stimulus or pump priming to get it going. These commentators do not seem to believe as I do that the nature of a market economy is to display an inherent resiliency and a tendency to expand in the absence of negative impulses. When I try to figure out what is preventing expansion in an economy like that, I look for headwinds problems like our own in the early part of this decade.

One way to think about Japan in my view is that over the course of the 1990s the Japanese have been learning that Japan is not immune to the law of one price any more than other countries. Sometimes analysts, especially academic types, tend to think of exchange rates mainly in terms of a fairly narrow set of tradable goods. It is almost as if the relative cost of producing a car in Yokohama versus Lexington, Kentucky will determine the exchange rate. Obviously, that simply is not the case in global capital markets. Asset markets have as much impact on exchange rates as manufactured goods, and that includes commercial and residential real estate as well as other asset markets.

Ten years ago if we had held aside the narrow set of exportable manufacturing goods of Japan and focused on everything else--commercial and residential real estate, equity prices, a whole host of things about Japan--translated through a filter of the prevailing exchange rate and we had learned we would have predicted one of two things: deflation or devaluation. We would have anticipated that either the exchange value of the yen would decline dramatically or the price level in terms of the yen would decline dramatically. We could have sat back and waited for something to happen. Yet, we have gone through a long period of time with the idea that the yen was somehow undervalued and needed to go up. It seems to me that is like saying that in the late 1920s the British were right in repegging the pound at the pre-World War I price of gold. All they had to do was to let prices denominated in pounds fall, including the prices of real estate, hamburgers, and everything else sold in the U.K. economy.

For people who have traveled to Japan and looked at the situation there more closely than I have, how close or how far is Japan to having adjusted to the rest of the world in terms of the yen prices of residential and commercial real estate, a cup of coffee, and everything else so that normal economic policies may work?

CHAIRMAN GREENSPAN. The World Bank just released a study on purchasing power parities a few weeks ago that designated what it costs to live in cities around the world. Cities in Japan are still very high on the list.

VICE CHAIRMAN MCDONOUGH. Even better, the Big Mac index comes to the same conclusion. [Laughter]

CHAIRMAN GREENSPAN. The Big Mac index used to be worthwhile until it began to include too much fat! [Laughter]

MS. RIVLIN. Did you have to eat one to find that out?

MR. HOOPER. There has been a longstanding dichotomy of views about the equilibrium exchange rate for the yen. Most PPP indices have it somewhere between 150 and 200, depending on which one we look at on which date. Most models that focus on the external balance would put it between 100 and 120. Perhaps one way of looking at it is to anticipate that in the very long term the yen will gravitate to a real rate consistent with the 150 to 200 range as a result of domestic price adjustments but that in the intermediate term, given the pressures from the market relating to the external balance, the yen will most likely go the other way.

CHAIRMAN GREENSPAN. Isn't the arbitrage value of the yen vis-à-vis the dollar under 100 if we go ten years out?

MR. TRUMAN. That comes from the 10-year bond yield.

CHAIRMAN GREENSPAN. I gather that bond yield spreads imply a covered rate for the yen, which, as I recall, is well under 100 for a ten-year horizon. That is the type of issue that President Jordan is raising, namely the real disequilibrium in the current yen exchange rate.

MR. JORDAN. You have to build in deflation in Japan in order to get the internal economy and external economy back in balance.

MR. TRUMAN. To come to that part of your question, it seems to me that two aspects are involved. One is that, as with everything else with Japan, it is difficult to tell. In particular, as you mentioned, part of the dimension of the disinflationary process has to do with the current level of asset prices. There, in particular, the asset price situation has not yet stabilized, and in turn that is related in part to what they have not done and what they may be unwilling to do to clean up their banking and financial system. Therefore, we may have an undervaluation in the yen relative to its long-run equilibrium, but that is in some sense my view of what the Japanese have to do to deal with it.

Your colleagues, who spent more time in Japan than I did, can comment on the fact that Japan still has a remarkably prosperous economy, especially in Tokyo. When we talk to Japanese officials about their economy, they will tell us that if we look at the department stores we will see a lot of customers; everybody is buying; everybody is well dressed. It does not strike an outside observer as an economy in a depressed state. That may say more about whether advanced industrial economies can sustain extended periods of no growth, which is not what we have been used to assuming. But given what Japan started from in terms of wealth and standard of living, I think that in fact a large proportion of the Japanese economy can very easily sustain extended periods of slow growth. That, in turn, contributes to their lack of urgency in trying to solve some of the fundamental problems associated with their banking and financial system.

VICE CHAIRMAN MCDONOUGH. They have a very rich economy, with income and wealth rather well distributed. That gives them a capacity to continue an inappropriate policy for a fairly extended period of time. They also have a relatively content electorate so that there is not the pressure on the elected officials that would normally come in some countries such as our own.

I think another aspect of President Jordan's question relates to an assumption that the Japanese economy is more of a market economy than it really is. It is a command economy that worked rather well for an extended period of time because the people commanding it did a reasonably good job. That command structure has broken down to a large extent, but there is not enough pressure, except that brought by foreigners including recent visitors, to say to the people running the country that they simply are not going to be allowed to let their currency devalue and export their way out of the current economic difficulties because the rest of the world will not permit it. We, the rest of the world, will bring enough pressure to bear on you to make it clear that rising exports are not a solution you will have the luxury to use. That may be good policy or bad policy, but if we look at the effect on the United States and on Europe of having to absorb the cost of the Asian crisis, we can easily see where the pressure on Japan is going to come from to manage its economy in a way that is more hospitable for its neighbors in Asia and less demanding on the rest of the world. Japan will have to fill the role that I think we can properly ascribe to them.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. I have a different question, but I am intrigued by this discussion. My question about Japan gets back to the forecast. As I recall our previous financial crisis in this country, whose severity I would judge to be about one-tenth that of Japan's current financial crisis, it was some time before there was sufficient recognition that the problem lending institutions, the S&Ls in our case, had to be cleaned up. I don't know how long Japan's banks have been in a problem situation, but I think it is within the two- or three-year horizon that it finally took us to act on our financial crisis. So, I think the fact that economic conditions seem prosperous in Tokyo can be a little misleading because the Japanese have not yet started to lose

their assets. Of course, they've lost a lot in terms of real estate values, but they haven't started to lose much in terms of their financial assets. When we put all of that together, it looks as if they have some distance to fall before things get righted.

Let me get back to the forecast. The one number that struck me was on Chart 6. Japan's GDP for the second half is rising at a 1.9 percent annual rate. I understand that there will be a big change in their fiscal policy, but it strikes me that a realistic forecast might be to go more to the pessimistic Asia scenario than to look for this rapid bounce back.

MR. HOOPER. We see further weakness in Japan's private domestic demand. That clearly is a result of anticipated difficulties in the process of resolving Japan's banking crisis. Over the second half of the year, there is no question that the banking problem will continue to weigh on the performance of the Japanese economy. We have chosen to write down a relatively moderate further decline in private investment after a fairly significant drop in the past few quarters and some further decrease in consumption after the declines registered over the past year. We are starting from a low base. The declines in these two key sectors have resulted in a significant further reduction in GDP in the second quarter. I agree with you that, despite impending large fiscal stimulus, there is a downside risk in our second-half forecast. There is also the possibility that if Japanese officials made a clear statement about resolving their banking-sector problems and actually started to implement remedial policies and their financial markets began to improve, we could see their economy begin to recover.

MR. JORDAN. To follow up with a comment on Governor Gramlich's question about Japan: Just looking at these charts, I assume that if you have their real exports flat and real imports declining, then you have built in a very substantial decline in real domestic consumption in Japan.

MR. HOOPER. Yes, domestic private consumption in our forecast does fall through the second half of the year.

MR. HOENIG. Let me ask, Jerry, was the nature of your question to ask how far they have left to fall?

MR. JORDAN. That is part of it, insofar as deflation rather than depreciation of the currency is the solution. One of those two things has to happen. If the second solution reflects a correct interpretation of the environment, does any amount of monetary or fiscal pump priming do any good?

MR. HOOPER. On the fiscal side, there is no question. Over the past three or four years, the growth that we have seen in Japan has been largely associated with movements in Japan's structural budget deficit. In 1996, they had a large fiscally-induced expansion of GDP. At the time, we thought conditions were beginning to turn around in Japan. They withdrew that fiscal stimulus in 1997, and the economy dropped off sharply. In the bottom left panel of that page, you can see a shift from fiscal stimulus of 1½ percent of GDP in 1996 to fiscal contraction of 2 percent of GDP in 1997. It was not surprising that Japan's economy weakened substantially between those two years. The fiscal expansion expected for 1998 is going to be crowded largely into the second half of the year. Our view is that if they get progress on the financial side--financial restructuring and banking reform--and the economy begins to pick up as a result of this fiscal push, households will start to have a brighter outlook.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I have two questions about Japan. First, I know that a program has been proposed on the fiscal side, but a lot of forecasters assume that perhaps only one-quarter or

one-half of that involves actual economic stimulus. What assumption has been made in the Greenbook forecast? I hope it does not incorporate the announced program in full.

MR. HOOPER. We looked at the numbers carefully in this regard and made judgments based on the past relationship between the announced numbers and the so-called "real water" content of the package. The numbers on actual investment spending in the announced package account for about three-quarters of the overall spending and the tax cuts for one-quarter. The tax cuts are spread over the next couple of years. The spending also is fairly evenly distributed. I have forgotten exactly what the gap is between the "real water" and the headline number, but it is fairly significant.

CHAIRMAN GREENSPAN. Where does the term "real water" come from? Is that the Japanese translation? What is "non-real water?" Does it have to do with priming the pump?
[Laughter]

MR. PARRY. With no water in it! My second question is how would you assess the extent of a credit crunch in Japan at the present time? I know there is some debate about that because banks obviously do not have an appetite to lend. At the same time, we do not see some of the typical characteristics of a credit crunch, notably rising interest rates. Do you see this playing a major role?

MR. HOOPER. We see it as beginning to have a significant impact. Probably the best indicator is the Tankan survey of business perceptions of the lending attitudes of banks. The survey results are shown in the middle right panel on Chart 6. They indicate a rather large decline in the first half of the year in the perceived willingness of banks to lend. Last year, our Japanese banking experts were questioning the existence of a credit crunch and attributing the

weakness in lending to a slowdown in demand. Now, with these survey results and a lot of supporting anecdotes, one cannot ignore the possibility that there is something significant there.

MR. PARRY. I would like to make a partial response to an issue that Jerry Jordan raised about what type of policy Japan should pursue. In the area of monetary policy, I think we cannot talk about that very effectively until we have had our discussion of the last item on today's agenda because I think theology may be required to answer what monetary policy is appropriate in Japan.

MR. HOENIG. Jerry, to return to your two descriptions of internal deflation or external devaluation, my observation of what is happening in Japan is that they have experienced an enormous amount of deflation that has not been recognized; they have put it off. I am referring to the portfolios of their banks, which are exerting enormous pressure. As these unsupportable liabilities to cash flows are being valued down and eventually recognized, I think we are seeing the effects in the form of both internal deflation and external devaluation. I think they have a distance to go. Their public estimates of the losses are now anywhere from \$250 billion to \$500 billion. That is a lot to work through. The fiscal issue is how much of the losses they are going to bail out through government spending. I think they have a long way to go.

CHAIRMAN GREENSPAN. Further questions for anybody? If not, why don't we break for coffee and come back in 10 minutes.

[Coffee break]

CHAIRMAN GREENSPAN. We have an announcement to make before we continue.

MR. KOHN. Because the markets will be closing at 2:00 p.m. and the futures market at 1:10 p.m. on Thursday, we will be releasing the minutes at noon on Thursday instead of 2:00 p.m.

CHAIRMAN GREENSPAN. Would somebody like to begin the Committee discussion? President McTeer.

MR. MCTEER. On the national economy, as a new paradigm optimist, I am looking for somewhat stronger economic growth, somewhat less inflation, and lower unemployment rates in my Humphrey-Hawkins projection than the Greenbook forecast. I was pleased to see today that that puts me within the central tendencies on everything but the CPI, where my forecast is barely under the central tendency. I readily admit, however, that my level of uncertainty regarding these forecasts has increased considerably since the last meeting. I have become increasingly concerned about the potential impact of Asian difficulties on our economy. The downside risks for both this year and next have risen in my view. It is my feeling that any economic weakness from Asia that spills over to our economy would be accompanied by even lower levels of inflation than we have had in the last year or two. As for the second quarter that ends today, my forecast at the moment is for a real growth rate of 3.3 percent.

The Eleventh District economy has continued to expand. I mentioned in the last two meetings that the rate of growth seemed to be slowing, led by the traded goods sectors, which have been impacted heavily by Asia and other forces as well. Again, it is oil, semiconductors, farming, and Mexico that are slowing the overall rate of growth. At the same time, the service and construction sectors are having difficulty keeping up with demand. Oil prices hit a 12-year low of \$11.56 two weeks ago. Inventories are said to be so high that oil is being loaded onto tankers, as Mike Prell mentioned earlier, that have no destination. They are just being used for storage. This supply overhang from a very mild winter in the United States and Europe together with weak demand from Asia has brought about steep declines in prices despite output cutbacks in recent months. This oversupply situation is expected to continue because 1.5 million barrels

per day of new capacity are due to come on line by the end of the year. Normally, the downstream energy business in refining and chemicals would be helped by the lower price of inputs. But that does not seem to be the case right now, partly because lower demand from Southeast Asia has put downward pressure on those product prices.

The glut of computer chips is causing a restructuring of the high-tech industry in our region. The increased demand for the sub-\$1,000 computers has hurt the sale of higher-end computers and reduced profit margins. Asian weakness has hurt the demand for PCs, cell phones, and other wireless products that use chips. All of this has occurred at a time when global overcapacity in chip production would have been a problem by itself. The large chip manufacturers in Korea halted production in their factories for at least a week in June in a futile effort to curb falling chip prices. Samsung is the largest chipmaker in the world with 19 percent of the market. Samsung, Hyundai, and LG Semicon have 40 percent of the world's DRAM market. Here at home, Texas Instruments sold the last of its DRAM businesses and announced the elimination of 3,500 jobs. One of the plants it sold was a joint venture it had with Hitachi in Richardson, Texas right outside of Dallas. Hitachi had to sell its share in an effort to deleverage its balance sheet. Now the deleveraging, which is becoming so prevalent in Asia, is happening here.

Parts of our agricultural sector have been hit hard by a drought that is spreading across west and south Texas. The cotton crop in non-irrigated regions is virtually nonexistent. Even irrigated crops are at risk because many farmers have already used up their allotments of irrigation water.

On the other side of the coin, the Eleventh District still enjoys one the fastest rates of employment growth in the country. Our construction sector is still booming. Construction

employment growth remains strong. Single-family and multifamily permits continue to increase. Residential contract values are up, and office vacancy rates continue to decline all over Texas. As a result, shortages of concrete and labor have spread to sheetrock and insulation. I mentioned at our last meeting that the shortage of concrete was so serious that it might affect construction of the new Texas A&M football stadium even though a number of their alumni produce concrete. That has happened and they are postponing the completion until the following season. The Aggies have lobbied for a tightening of monetary policy to make the current concrete shortage go away. [Laughter]

MS. MINEHAN. *There is material for a joke in there somewhere!*

MR. MCTEER. The Mexican economy slowed substantially during the first quarter, particularly after the correct seasonal adjustments are made to the official data. Mexican oil revenues have been hurt by lower oil prices and by Mexico's decision to join Saudi Arabia and Venezuela in a futile attempt to cut production in the hope of stabilizing prices. This has cut government revenues and expenditures have been reduced as well. The rate of growth in Mexican exports of manufactured goods has slowed and this trend is expected to continue as Asian exports and labor become relatively cheaper. The deceleration in the Mexican economy adds to the downside risks for the Texas economy over our forecast horizon.

Back to the national economy: The downside risks for the economy have risen since the last meeting. Inflation statistics over the last two months have raised some concerns, but signs of inflationary strain are lacking in goods markets, and long-term inflation expectations continue to fall. The Asian crisis has and will continue to exert a downward impact on inflation by lowering commodity prices and the prices of imports generally. And if it has not already done so, the crisis will have a longer-term restraining effect on inflation through its moderating

influence on U.S. output and employment growth. The yield curve, and I am referring to the 10-year yield minus the 1-year yield, is telling us that slower economic growth is imminent. A negative yield curve has preceded seven out of the last six recessions, the one exception being in 1996 when a recession did not occur. The world economy is especially sensitive to U.S. policy changes at this time. Through its impact on net exports, an unexpected tightening would have a much stronger-than-usual negative effect on the U.S. economy. There are very few signs of production bottlenecks and unfilled orders, and supply deliveries suggest that inflation pressures are easing. Our directors and other contacts continue to tell us that their pricing power is at an all-time low. Market indicators such as the price of gold and commodity price indexes say the same. As I weigh the risks, I think a strong case can be made for a more balanced view of the economic outlook.

CHAIRMAN GREENSPAN. The tankers obviously are being used for storage. Is that mainly for storing crude, products, or a combination?

MR. MCTEER. I think it is crude, but I'm not positive.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Thank you, Mr. Chairman. Economic growth in New England continues to be strong. Employment is growing at about the same rate in our region as in the nation, while the unemployment rate is more than 1/2 percentage point lower. Massachusetts leads the region in job growth, outstripping the national rate, and Maine and Connecticut are second and third in the nation, behind Alaska, in the size of their decline in joblessness over the past 12 months. The region mirrors the nation in the types of jobs being created. Construction is vibrant, followed by services. While manufacturing jobs declined slightly in May, they remained a full percentage point above year-earlier levels. Labor markets continue to be very

tight, especially for skilled workers. It is reported that Fidelity has 4,000 openings, while John Hancock, only recently enmeshed in downsizing, is trying to hire a substantial number of workers as well. Consumer prices rose 2½ percent from a year earlier in the region with wages growing at about the same pace. Our contacts see little change in overall wage inflation; however, personnel supply firms report wage hikes for temporary workers in the 5 percent range for less skilled individuals and increases ranging up to 20 percent for highly skilled technical workers. Contacts mentioned growing use of incentive-based salary increases as a method of keeping base wage advances modest and overall wage bills expanding no faster than sales or revenues.

he commented that the GM strike was likely to be short. At that point, only one plant was involved. I saw him recently and asked about his prognosis now. He still believes the strike will not be long, though it has surfaced tensions within the UAW itself on how to deal with GM. However, his assessment of the length of the strike should be taken in the context of the fact that is just about to end a strike of three years' duration in Detroit. [Laughter] More interesting from the point of view of this Committee meeting, however, is the fact that from his perspective, more are now in preparatory steps to labor action than he has seen over a considerable period of time.

Confidence remains high in New England, but in our Beigebook calls concerns were voiced about the length of the expansion and the impact of the turmoil in Asia. Earlier this year,

regional retailers expected little impact from Asia. Now they are less sanguine, but the size of the negative effect is uncertain.

Real estate markets remain robust, with the strengths first seen in Massachusetts now in evidence in all the New England states. Inventories of homes are short, and residential prices are rising, though only at a rate slightly above that of the nation. Some speculative construction is now occurring. The chief investment officer for John Hancock attends a regular breakfast meeting that I hold. He notes that Hancock sees tight real estate markets across the country with especially fast growth in Houston, Phoenix, and Orlando. He expects prices to continue to rise though perhaps at a slower pace. Hancock plans to

More broadly, on the national scene our forecast is more optimistic about growth and more pessimistic regarding inflation than the Greenbook's. We do not see as large an effect from an inventory correction for several reasons. First, inventory buildups in both manufacturing and retail have not had much of an effect on inventory-sales ratios. In particular, retail inventory accumulation is largely in nondurables for which sales have been brisk of late. Survey data, in particular the NAPM survey, do not indicate concerns regarding inventories. Inventory buildups, as we mentioned earlier in our discussion, could also reflect a desire to lock in lower material and supply costs in the face of future needs; this seems particularly likely in the area of petroleum inventories, which by some accounts made a sizable contribution to the pace of inventory accumulation in the first quarter relative to that in the second half of 1997. I think Mike Prell mentioned that as well. Finally, the buildup in wholesale inventories, which has affected inventory-sales ratios, is largely in the durable goods area, likely reflecting both a decline in exports and an increase in imports, possibly at bargain prices. Trade data support the

idea that imports of capital goods grew substantially during the first quarter. Thus, it may be that even the manufacturing inventory buildup was intended and that its inevitable slowdown will hit foreign producers as well as domestic producers.

With stronger growth in 1998, our forecast sees the unemployment rate falling slightly and inflation as measured by the core CPI picking up, as it clearly has in the first months of 1998. Looking forward to 1999, even assuming a modest policy tightening, inflation in our forecast tilts upward more than in the Greenbook. Clearly, there are risks to this forecast. Our assessment of the inventory correction could be off the mark. Our judgment about the impact of Asia, which is not terribly different from the Greenbook's, could be wrong and Asia's impacts could be worse. A stock market correction could damp consumer confidence and rein in spending or the very age of the expansion could begin to damp consumption. However, I should note that our forecast as well as the Greenbook's and other forecasts need a slowdown, and care must be taken not to overreact as it occurs.

There are risks on the other side as well. Our forecast and those of others have consistently underestimated growth, as the Chairman pointed out before. Labor markets are tight and are expected to remain so in our forecast and the Greenbook's. Personal income is rising, spending is strong, home buying conditions are very favorable, and confidence is high. Business investment in capital goods and now nonresidential construction are reasonably strong and may be prompted by rising wage costs and labor scarcity to remain so. A sideways or declining stock market could eat into household wealth and put even more pressure on business. But at least on the household side, rising housing values could sustain confidence and spending. Finally, credit continues to be available, though spreads have widened a bit, particularly for anything involving Asia.

So, there are risks on both sides. But I continue to see the cost of being wrong as skewed to the upside. I do not think there is much doubt that our economy is operating at levels beyond its potential, even though trend productivity may have increased. Being wrong at this stage runs an increasing risk of building in an inflationary momentum, and we may be seeing that in the uptick in the core CPI recently, especially as it reflects the cost of shelter. If we are wrong on the downside and growth slows more than is forecast, the remedy of easing policy is there and likely could thwart any move toward recession. If growth is stronger, however, the job to rein in inflation may be tougher, take longer, and ultimately be more damaging to the domestic and world economies.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, the pace of economic growth in the Twelfth District has remained strong in recent months, and some of the tightness in local labor and housing markets is showing through to wages and consumer prices. In Arizona, the fastest growing state in the nation, job growth has been running at more than a 4½ percent annual rate. Nevada and Washington are not far behind with recent employment growth at a rapid 4 percent pace. Growth has slowed a little in California, which has been somewhat more affected than other states by the drop in exports to Asia and the pickup in import competition. The slight slowdown largely has been confined to the state's manufacturing sector, and overall California job growth still has been solid, about 3 percent at an annual rate. Farther west in Hawaii, recent economic developments have been decidedly more negative as the effects of reduced Asian visitor spending have rippled through that island economy.

Although the Asian situation has had disruptive effects on real activity in the Twelfth District, consumers have been benefiting at least temporarily from the related declines in prices

of imports as well as the generally low prices of commodities. However, we have seen some recent pickup in price increases for nontraded goods and services. Housing markets are tight in the District, and the regional CPI has been boosted to a noticeable extent by an acceleration in its housing shelter component. For example, CPI housing shelter costs in the San Francisco Bay area have jumped about 7 percent relative to a year earlier, and rents also are picking up in Los Angeles. In the Pacific Northwest, where a tight labor market has led to a pickup in wage inflation, consumer prices for services other than housing also are increasing at a fast pace.

Turning to the nation, we continue to see a divergence between our structural forecast and the economy's actual performance. On the one hand, our structural model continues to predict slower growth. Real GDP is projected to grow at a $2\frac{1}{2}$ percent rate in the second half of this year and a less than 2 percent rate in 1999. The huge inventory buildup in the first quarter is responsible for much of the near-term slowing currently predicted by the model. Weakness abroad also is an important reason for the slower growth. More generally, the forecast of demand is constrained by the relatively high level of the real short-term interest rate.

On the other hand, incoming data continue to show a stronger-than-expected economy. Among the prominent recent examples are the employment and industrial production reports for May. Together with a rapid expansion of liquidity, these data suggest that there may be a substantial upside risk to the forecast that calls for a marked slowing of growth. Even in our forecast of slower growth, the low unemployment rate will continue to exert upward pressure on wages. This pressure is offset by a number of factors including an increase in trend productivity growth, diminished inflation expectations, the higher dollar, and increased price competition from abroad. As a consequence, our forecast shows core CPI staying between 2 and $2\frac{1}{2}$ percent this year and next. But I remain concerned that if growth does not slow as predicted, the effects

of even tighter labor markets will begin to show through to higher wages and inflation expectations and ultimately to higher price inflation. Thank you.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you, Mr. Chairman. Let me start with a puzzle I am left with after listening to some of the comments that have just been made about inventories, oil, and the connection between oil inventories and imports. I may be missing something. If the increase in inventories is basically composed of imports, whether they are oil or something else, those inventories could not have contributed to GDP in the first quarter because as imports they were recorded as a negative. By the same reasoning, the projected decline in inventories in the current quarter should not have a negative effect. That strikes me as something important that we need to understand a little better. I remember some huge previous discrepancies in the international trade accounts when there were statistical discrepancies worldwide on imports and exports. It turned out that exports from some countries were counted as exports but were not yet recorded as imports someplace else because they were in tankers held up in the Cayman Islands or elsewhere. So, we would have to wait a while to figure it out. I think that is an issue that would bear unraveling before we draw any firm conclusions about how either the trade account or inventories will affect GDP in the second quarter and the rest of the year.

I have a comment on the auto situation. About 21,000 of the GM-affected workers are in Ohio. We have very large auto and auto-related production facilities in our area, so the strike will have a negative impact on manufacturing activity in our region as long as it continues.

Turning to some regional anecdotal reports since the last meeting, bankers continue to tell us that commercial loan demand is very strong, exceeding their loan budgets for 1998 as estimated at the start of the year. Consumer loan demand is reported to have weakened recently

compared to earlier in the year, but bankers say that their consumer loan extensions are still well ahead of their plans as set out at the beginning of the year. With respect to real estate lending, they say that mortgage financing, which boomed late last year and early this year, has cooled more recently. But in the usual reports on their real estate portfolios, they do raise increasing questions about the transaction prices they are seeing on income property deals. As before, we are hearing frequent complaints from bankers throughout the District that the Farm Credit Banks are very aggressive in their pricing, doing some of the things they were doing back in the mid- and late 1980s.

Construction spending in the District is heading for another record. We have had more announcements of new public buildings, and this is a reflection of very strong local tax receipts. Those projects will carry through into next year. We already are hearing that not only will 1998 construction spending and employment in the construction sector exceed 1997, but our contacts expect 1999 to be even stronger yet. Following up on the persistent complaints of shortages of construction workers, the building trades unions are now lobbying Congress for an increase in immigration limits on construction workers. In Cincinnati, we heard that the labor market is so tight in southwest Ohio and north central Kentucky that people involved with the construction industry are developing plans to bus in workers to build the two new stadium projects that have been authorized. When I asked them from where, they said that they are still working on that. [Laughter]

Reports on labor market conditions indicate larger wage structure increases than before and more use of retention bonuses to address turnover. Health care cost increases, as we have heard before, have risen by up to 30 percent. One firm in the Columbus area reported that they advertised for two weeks for unskilled clerical and warehouse workers with starting wages

of \$7 to \$10 per hour and the advertisements yielded no applications. That prompted another businessperson to respond that in their warehouse distributorship business, they have negotiated a work release program with the local prison and have experienced no absenteeism so far.

[Laughter]

MS. MINEHAN. Only breakouts!

MR. JORDAN. A communications company told us that they now feel compelled to pass through steep increases in labor compensation costs to their customers because they are no longer able to meet such costs through greater productivity and efficiency. We were told that tourism is booming everywhere, but average occupancy rates in hotels and motels in the region are declining because new construction is adding to capacity more rapidly than the rise in demand.

Exports to Latin America and Europe are reported to be well ahead of expectations this year. Contacts report optimism about markets in both parts of the world because those markets are not only good for U.S. exporters, but because they provide some relief to import-competing industries here that see potential imports from Asia going instead to those other regions. An exception has been steel. We were told that European steel was now coming into the United States because Asian steel is going to Europe. Balancing that somewhat, a mine safety appliance company said that sales in Europe were the best in years, and they are optimistic that will continue into next year.

On the national economy, the Greenbook projects a soft landing. Again, I like the Greenbook forecast; I only wish I could believe it. The soft landing largely comes from the slack created by falling export demand and the leakage of excess domestic demand into the external markets that is reflected in the surging imports and the skyrocketing current account deficit. The

story implied by the Greenbook is that without the Asian crisis, inflation would be a much more serious problem already and in the future. The Asian crisis also helps us indirectly by depressing earnings of exporting and import-competing firms. That fosters less exuberant equity markets, which in turn reduces the wealth effects that presumably have supported the extraordinary domestic final demand. In a nutshell, I read the Greenbook analysis as saying that we are going to get out of the current situation without accelerating inflation or a recession or both. That will happen because the Asia crisis came along at just the right time and in just the right magnitude. Maybe so, but I am becoming increasingly less sure that we can avoid inflationary excesses and imbalances in some of our markets--assets markets in particular and especially real estate--that would eventually make a recession unavoidable.

Our challenge is how to keep this wonderful economy going not only for the benefit of our own people but for that of the rest of the world. I would like to see and hear in our District more caution being exercised by both borrowers and entrepreneurs on one hand and lenders and investors on the other side. But the pattern of errors that we have seen in the last year in forecasting money and credit growth and nominal spending growth has gone on for too long. I feel very certain that if a year ago we had looked at a forecast that accurately predicted what actually has happened in the economy in the last four quarters, we would have been more inclined to think that some precautionary firming was appropriate. Even if the Greenbook is right about the economy and the Bluebook is right about money growth, two years from now we are going to be looking at a current account deficit of \$400 billion, a direct reflection of excessive domestic demand in the sense of much more rapid growth in demand than aggregate supply. We know that pattern is unsustainable and it also should be unacceptable.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. The economy of the Philadelphia District continues to operate at high levels, but the rate of increase appears to be slowing. The labor market in the District reflects this situation with a low unemployment rate and slowing job growth, and there continues to be little upward pressure on prices. Home sales have been doing very well in recent months. Land prices have been rising, but builders have had trouble passing through these increases. Buyers are shopping a lot and they are pressing builders for lower prices. When there have been price increases, they generally have been modest. National builders have made competition even more fierce for local builders and, as a consequence, builders have had to be more efficient to maintain reasonable margins. Despite widespread indications of high levels of demand, producers continue to have little ability to raise prices, and this phenomenon is still widespread in the District whether in construction, retailing, or manufacturing.

Turning to the national economy, the basic story in the Greenbook of moderating growth and modest inflationary pressures in the context of a lot of uncertainty strikes me as being reasonable. The only part of that forecast that I have a good deal of confidence in is the "lot of uncertainty" part. I have the sense that what we see as the most likely outcome is less likely than earlier and that both upside and downside risks have increased in recent weeks. We have little practical choice but to be patient and alert in this environment.

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADDUS. Thank you, Mr. Chairman. Our District has been expanding at a moderate pace in recent weeks, maybe a little more slowly than earlier in the year mainly because of a deceleration in manufacturing activity, notably in the chemical and paper industries, which are important in our region. Anecdotally, manufacturers currently are more pessimistic in their comments to us about the longer-term impact of the Asian crisis on their markets than they

were at the time of the last Committee meeting. Elsewhere, we have had some impact from the GM strike, mainly in Maryland. For example, a van assembly plant in Baltimore had to shut down because it could not get component parts from GM facilities that had shut down in Michigan. About 2,700 people were laid off in that instance, and there have been smaller layoffs at a number of companies that supply GM. So, manufacturing is currently on the soft side of our regional picture. Outside the manufacturing sector, business conditions still look quite strong. If anything, consumer demand may be strengthening further. Automobile and truck sales have been quite robust recently, and we also have seen good demand for furniture and appliances, presumably because of the continued strength in housing activity.

Finally on the District, I have been struck by the frequency of comments we get from our directors and other business contacts regarding the extraordinary amount of money that is looking for a home. Potential investors, including notably REITS, are competing very aggressively for deals. In this kind of environment, there is a lot of concern on the part of bankers in the District and other observers that credit standards may be slipping and we may be digging a hole for ourselves. That is it for my District.

I have a little anecdotal information on the Kansas City District. I have a son who recently went out to Albuquerque. He doesn't know anybody out there. He had been there about two weeks, and he got a job with benefits! [Laughter] I don't have to pay his health insurance anymore. So, as far as I am concerned, the Albuquerque economy is in really great shape.

MR. HOENIG. It has the highest unemployment level.

MR. BROADDUS. Well, my son has dropped it down a little.

CHAIRMAN GREENSPAN. Did he get a signing bonus?

MR. BROADDUS. He did not get a signing bonus. But incidentally I should tell you that the job he got was recruiting high-tech workers. [Laughter]

MR. MEYER. Does he know anything about that subject?

MR. BROADDUS. I hope he does by now; he has been working for them for a couple of days. [Laughter]

With respect to the national economy, real GDP growth may indeed have slowed to a 1½ percent rate, the figure you gave us earlier, Mike, with inventory accumulation slowing from the rapid pace in the first quarter and net exports continuing to deteriorate. But it seems to me, and I guess I'm just repeating some things that others have said, that these two negative impulses on real GDP growth clearly should be temporary. With that in mind, it is hard for me to see why the negative effects of these two factors would be powerful enough to reduce the growth of real final domestic purchases by 3 percentage points in the second half of 1998 and by roughly an additional percentage point next year as projected, holding the average growth in real GDP below 2 percent for the next six consecutive quarters. The labor markets are still extraordinarily tight, and the Greenbook is projecting only a small reduction in the growth of employment in the near term. That implies continued solid growth in real wages and real income, supporting consumption. Investment, it seems to me, ought to remain reasonably strong, given continuing favorable financial conditions and a lot of opportunities to increase both productivity and sales. From this perspective, it seems quite plausible to me that the growth of final purchases will continue to offset the negative effects coming from the inventory correction and weaker net exports. Indeed, if these negative effects dissipate, it seems to me that demand could actually strengthen a little in the quarters ahead. With these points in mind and with the core CPI on a

consistently measured basis projected to drift up, I come out in the opposite position from Bob McTeer. I think there is still a lot of upside risk in the outlook and we need to give it weight.

Having said all of this, Mike Prell and his staff might be forgiven for wondering why we submitted projections that are very, very close to the Greenbook. The answer is that the appropriate monetary policy we assumed, following the instructions, raises the federal funds rate about $\frac{3}{4}$ percentage point over the next several months.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Thank you, Mr. Chairman. Apart from the GM strike, conditions in the Seventh District generally are quite similar to what I reported at the last several meetings. Our region is experiencing continued moderate expansion and very tight labor markets, with occasional signs of wage increases but very few indications that price inflation is accelerating. Like last year at this time, championship performances by both the Chicago Bulls and the Detroit Red Wings have boosted local economies. Labor shortages continue to be the main concern of virtually all businesses in the District. The unemployment rate for our five states dropped $\frac{1}{2}$ percentage point in April to an average of 3.3 percent and remained near that level in May. One of our directors, who for months reported that his large national retailing firm had not had to raise wages to get workers, has for the first time reported labor shortages and higher labor costs. I noted last time that consumer price inflation in the Midwest had accelerated ahead of that for the nation, and that continues to be the case, with prices for services being the driving factor.

While the District economy continues to perform very well, there are a few signs that activity may be slowing. The Chicago Purchasing Managers' survey results released this morning showed a slower rate of expansion in June, with virtually all of the components lower than in May. Part of that may be due to Asia. Anecdotal reports of any serious adverse Asian

impact have been largely limited to the high-tech electronics and electronics components industry. However, we have heard that Asia may be the reason for slowing in the temporary help industry. While overall business was quite strong in the paper industry, exports were down sharply. In general, retailers noted that there has been some slowing in sales activity in June from the torrid pace of April and May. A large producer of agricultural equipment has reduced production for the first time in four years. The firm anticipates slower sales because of larger carryover stocks in agricultural commodities, lower farm incomes, and weather problems in agricultural areas. Bob McTeer mentioned drought. We have had floods in Iowa; maybe we can ship some water down to Texas to help them out!

The biggest news, of course, is the GM strike, which is constraining our region's economy relatively more than the nation's. Over 50 percent of GM's laid-off workers at U.S. assembly and parts plants are in the Seventh District. Retail sales in Michigan and other communities having a sizable GM presence are showing more softness than elsewhere. Auto dealers in the District are concerned about shortages of vehicles as well as parts, which could affect their service business. A survey by our Detroit branch found that spending by business firms in the Flint area has been particularly affected.

In terms of the strike's impact on the national economy, we are in broad agreement with the Board staff that the strike will reduce real GDP growth about ½ percentage point in the second quarter. Much of that effect will show up as a reduction in inventories, as June's light vehicle sales probably will be in the mid-15 million unit annual rate range. That would be a strong performance though not as robust as in May. Some of the strike's lost output will, of course, be made up the second half of the year, but the key point is to recognize a strike for what

it is so far, namely a temporary adverse supply shock with temporary negative consequences for both output and prices.

Turning to the national outlook, the incoming data of the last few weeks have confirmed the underlying strength of domestic demand. So far, we see little evidence of slowing in consumption and fixed investment, and labor markets are still very tight. As at the previous meeting, our forecast of slowing growth hinges on substantial declines in inventory investment and deterioration in net exports in the near term. Certainly, the April business inventory data show some slowdown in accumulation relative to the first quarter, but we still may see higher growth in stocks than the Greenbook projects. Although we are somewhat more optimistic on net exports than the Greenbook, we recognize that the risks here are great.

My recent trip to Japan only confirmed my growing pessimism over the prospects for the quick and significant structural reforms needed to improve their economy. It was painfully reminiscent of my days as a trade negotiator back in the early 1990s. All told despite these considerations, we think that real GDP growth is likely to exceed 3 percent, and we forecast 1999 growth at or slightly above trend. We are less optimistic about future inflation than the Greenbook. The slight recent deterioration in CPI inflation may not be alarming, but as the special factors holding down goods price inflation wane, we may see overall inflation moving higher as the gap between services and goods price inflation closes.

In my judgment, the risks we face have increased on both the upside and the downside since our last meeting. Domestic demand has not slowed appreciably, and wage and price data show some deterioration. On the other hand, the situation in Asia and in Japan in particular seems to be more serious than just a few weeks ago. On balance, despite my increased concerns regarding Asia, I believe the risks we face remain on the upside.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. The Sixth District economy is still operating at a high level, but recent growth appears to have been slightly slower than that I reported at the last FOMC meeting. Retail sales have posted only modest gains above those of a year ago, while the stories on manufacturing are mixed, with strong reports from some areas and problems from others. For example, layoffs at Motorola are expected to have an impact on employment in Huntsville, Alabama and at two plants in Florida, and prospects are gloomy at a Nissan auto assembly plant in Tennessee. The GM strike has already idled 5,000 autoworkers across our District, and a report last week from

was very pessimistic about the likelihood of a prompt settlement. Building on what Cathy Minehan said, other signs of labor activism are showing up: negotiations are going on at Bell South, where wages are a very big issue, and at Lucent Technologies, where benefits and job security are highest on the list of issues.

Housing activity continues at a strong pace in the District, with single-family home construction and sales being the strongest. The only area of softness is in Louisiana. One sign of how strongly the tourism industry in the District is affecting housing markets is illustrated by a report from one of our directors at a recent meeting. He indicated that entire single-family home developments are being built in Florida and sold with the idea that the homes will be rented for a week or month or more to tourists. Office markets remain healthy while multifamily construction, which we thought had peaked, now appears not to have done so and is certainly doing better than we expected. Nevertheless, with the exception of Orlando, we continue to believe that most of the big cities in the District are on the verge of being overbuilt. At the last meeting, I indicated that the torrid pace of tourism, one of our region's major engines of growth,

had slowed a bit. But as new attractions have come on line in Orlando, we have seen some rebound in tourism.

On the wage and price front, the stories seem to be much the same. Unusually large wage increases remain tightly targeted on just those fields where scarce skills are in high demand, and firms are continuing to report a determination to resist raising prices. With labor markets tight and perhaps even a tad tighter in recent months, I am hearing more reports of hiring bonuses, retention bonuses, and other one-time compensation increases. Like others, I am hearing increasing talk of companies adding benefits. Small companies are adding hospitalization; large and small companies are adding childcare benefits. It is not clear to me to what extent those nonwage benefits may have found their way into the traditional measure of overall compensation costs.

Not to be outdone, I have brought along with me a copy of an Atlanta newspaper from last week that tells my favorite tight labor market story for June. It was reported that a small high-tech firm in suburban Atlanta had just leased a BMW for every one of its 40 employees, from the receptionist to the programmers, as an added inducement for people to stay with the company. It is reported that they are even paying for the auto insurance to go with the BMW.

SPEAKER(?). How long is the lease?

MR. GUYNN. I'm not sure. [Laughter]

CHAIRMAN GREENSPAN. As long as they stay!

MR. GUYNN. As long as they stay. On the national front, like others, I see an economy that is divided into two very divergent sectors: the international sector, which is looking weaker and weaker, and a strong domestic economy, where growth was paced in the first quarter by robust gains in consumer spending, business investment, and inventory expansion. It

seems to me that there is little one can do directly with monetary policy to affect the international sector. After taking account of the damping effect it is having on overall domestic real growth, I would argue that we should not allow international developments to divert attention unduly away from any developing imbalances in the domestic economy. Fortunately, I don't believe that is happening, at least not yet. To be sure, consumer spending continues to pace the domestic economy. Last Friday's spending and income numbers continue to suggest that the consumer is not yet spending beyond his means. Consumer debt burdens remain somewhat high, as do bankruptcies, but appear to be manageable so far. Corporate profits remain strong, increasing but at a decreasing rate. Whether this will damp investment and whether the recent buildup in inventories is planned or unanticipated continue to be key questions in my mind.

Our forecast for the next two years is similar to that in the Greenbook and to many other forecasts. Like the Greenbook, though with some difference in composition, we see some slowing in coming quarters due primarily to a slackening in investment spending and a pullback in inventory spending. We see consumer expenditures remaining strong. We anticipate that inflationary pressures will be modest over the forecast period, with the expected pickup in inflation being due primarily to an unwinding of the favorable effects that recent declines in energy prices have had on prices rather than a surge in underlying inflationary pressures. To be sure, the risks to this forecast, as others have said, are different depending on whether one looks at the domestic or the international components. Clearly, as Peter Fisher has laid out and others have commented, problems in Japan and elsewhere in Asia could worsen significantly and the ripple effects could be quite alarming. However, I think the risks to the domestic economy remain on the upside. In my view, it would be premature to take down the caution flag in that

area quite yet. We have continually been surprised by the strength in investment and consumer spending, and those patterns could well continue for some time. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. The regional economy continues to do very well: consumer spending is strong, construction activity is strong, and business attitudes are generally upbeat. The only exception to those favorable patterns is in the natural resource industries--agriculture, energy, and paper--where conditions are clearly a good deal less favorable and there are some concerns.

Our labor markets remain very tight. The unemployment rate in the Twin Cities metropolitan area has now dropped to 1.7 percent. This has led to some acceleration in the rate of wage increases but it's spotty. It's by no means generalized. As a consequence of discussions we have had with a variety of business and labor people, one development that seems to have restrained at least overt wage increases is a greater emphasis on what people are calling quality-of-life issues. That is, labor is increasingly interested, at least in our area, in things like more flexible hours, more flexible vacation time, relaxed dress codes, and so forth. Employers seem willing to trade those kinds of things for what we think of as traditional compensation increases. Whether those always lead to cost increases or not depends, of course, on what happens to productivity. There, we do not have very good statistics, although business people do report what they consider to be very favorable results in terms of the application of technology and their ability to raise productivity. So, that seems to be ongoing, at least in our part of the world.

All this is hardly news at this point, but I do think productivity is one of the keys to the economic outlook and will be a principal determinant of how the economy plays out. I tend to

be relatively optimistic in that respect. I think something like the Greenbook forecast is certainly possible, although my own view is that we will get more real growth both this year and next than in the Greenbook forecast. I believe domestic aggregate demand will continue to expand substantially. I expect aggregate supply to benefit from the productivity improvement that we are seeing, but I also think we probably will see more inflation next year than is anticipated in the Greenbook. My view is not based so much on a conviction that more inflation is inevitable but simply on the notion that I would not want to bet the whole ranch at this point on sustained productivity improvement above and beyond what the trend might be. So, I am a little cautious when it comes to that.

As far as Asia is concerned, we obviously don't know how much of an adverse effect developments there might ultimately have on the U.S. economy. Even if we did know, I think we would have a good deal of difficulty unraveling the implications and ramifications for our economy. My own guesstimate is that we should not exaggerate the effects of Asia. The reason is, as we have seen repeatedly over the years, that our economy is very resilient. We have seen major domestic disruptions to various regions of our economy from time to time--I'm thinking both of the East Coast and the West Coast--and yet overall activity continues to march ahead rather nicely.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. Since we had a very fine report on the Tenth District earlier, I will keep my comments relatively brief. [Laughter] I will say, though, that the District economy remains strong. Our directors and business contacts report signs of this strength everywhere. Consumer spending is brisk, manufacturing is solid, and housing sales and starts are robust. Labor markets generally remain tight across the District.

There have been some significant developments in the ag markets recently, and I thought I would touch on that for a few minutes. Overall, the agricultural situation is weakening as farm prices continue to sag. The District's important wheat harvest is well under way and a large crop is expected, although about 10 percent smaller than the bumper crop that we had last year. In addition, recently planted spring crops are well established and are enjoying excellent growing conditions. Dampening the farm outlook, however, are low farm prices. Wheat, soybean, and pork prices are running more than 25 percent below levels of a year ago. Corn prices are down about 12 percent. Part of the problem stems from the drop in demand from Asia. Wheat exports to Asia have been especially weak, contributing to the low hog and cattle prices and widespread losses in the first half of this year. The weakness also results from prospects for large supplies of both crops and livestock this year. If weather patterns are normal this summer, crop inventories will build for the second straight year. If these low prices persist as the futures markets currently suggest, we expect that farm income in the nation will fall about 5 percent. In our District where livestock is more important, farm income could drop as much as 10 percent. In real terms, farm incomes are sliding to near the lowest levels in this decade.

Lower farm incomes will, I believe, lead to some rise in farm loan problems this year. However, most banks had strong portfolios coming into the year and should be able to absorb likely increases in delinquencies. Moreover, rising farmland values and strong cash rents continue to indicate that many farmers still have strong balance sheets. On a more positive note, of course, the weak farm prices will moderate any upward pressures on food prices.

On the national front, I think private domestic demand is fundamentally strong. Even though domestic demand growth may slow over the forecast horizon, I believe that it will remain at or even above the long-run trend. The first-quarter revision suggests that the economy carried

over more momentum than previously estimated, and so far the second-quarter consumption data support that view. Even though the expansion should slow this year due to the expected inventory correction and the worsening of the trade deficit, I think the slowing will not keep real GDP from growing above the long-run trend. I recognize that inventories and the decline in net exports are a significant risk to the expansion.

Recent developments on the inflation front have caused me to revise upward my inflation expectations for the year. The increase in core inflation we have seen so far this year is larger month-over-month than I had anticipated. I also expect inflation to increase further next year, perhaps as past favorable inflation factors unwind. While I remain reluctant to draw strong implications for inflation from the labor markets, I don't think we can ignore the upward movement in wage gains arising from very tight labor markets. In addition, we are seeing a divergence between growth in domestic demand and growth in GDP. To the extent an accommodative monetary policy may be generating the strong domestic demand, I think we should worry a little about inflationary consequences.

Finally, the continued strong growth in the monetary aggregates, M2 and M3, suggests to me that monetary conditions have become more accommodative. Having said this, I am aware that favorable offsetting factors continue to exert moderating influences. Pipeline pressures are small; capacity utilization has been declining; and the dollar, of course, is and has been appreciating. In addition, the historically high real federal funds rate appears to be consistent with a slower expansion.

I weigh all this and balance it out as follows: The expansion recently has shown signs of slowing to a more moderate pace, but I expect it to continue growing above its long-run trend for at least the foreseeable future. Also, as temporary favorable factors unwind, I think inflation

is likely to pick up later this year. I see evidence accumulating to suggest that monetary policy has become more accommodative. As a result, there is a risk that inflation will rise more than what I would be comfortable with. However, I recognize that the data relating to the extent of this risk remain mixed, and I also am aware of the unfolding events in Asia. So, I look forward to our policy discussion tomorrow.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. Thank you, Mr. Chairman. The Second District economy has been quite strong in the second quarter. Our manufacturing sector, which is concentrated in the northern half of New Jersey and upstate New York, actually began to look up a bit until the General Motors strike came along. GM has laid off about 5,400 workers of the 10,000 located in Buffalo, some more at a parts plant in Rochester, and about 2,300 in northern New Jersey. That has set manufacturing back a bit. Although New York City still has an unemployment rate of over 7 percent, that rate is down from over 10 percent 8 or 9 months ago, and the city seems to be on the way to adding more new jobs this calendar year than in any year since the 1960s. So, the city continues to do rather well.

As I look at the national and international economies, the word that comes to my mind is "uncertainty." I think that the forecast, as presented in the excellent staff Chart Show, is a perfectly reasonable one and one that I sincerely hope will materialize, especially the international aspect of it. However, the downside risk on the international side is very considerable in my view. The situation in Japan impresses me as one in which the economic data do not tell us the nature of the crisis. What we are dealing with in the second largest economy of the world is a very deep cultural crisis in which the decisionmaking process of the society, which had served Japan very well since the Meiji Restoration and especially since the

Second World War, has broken down. The decision recommenders and to a large degree the policymakers have been in the bureaucracy, which is now completely discredited and even more completely dispirited.

During our recent trip to Japan Deputy Treasury Secretary Summers and I found that leadership for the Japanese nation would now have to come from the largest political party, the LDP. This is a rather significant shift in the way that society is run, and one has to hope that the shift will work well. In my view, the emerging decisionmakers in the LDP probably have a window of opportunity of about two to three months in which to convince the party members and other political decisionmakers to take some very difficult steps as regards the restructuring of the Japanese economy, especially the financial sector. There is a real question concerning whether they will be able to do that.

If they do not--that is, if the Japanese people continue to have very low confidence at both the consumer and business levels and if that doesn't turn around in the next two to three months--I think that Japan will sink into a deeper recession. That inevitably will cause a much more serious crisis elsewhere in Asia, largely because the situation in Japan would add to the crisis of confidence in an area where confidence is already abysmally low. It is very difficult to imagine that the effects would not spread to the key countries in Latin America. We have seen that even Chile has become vulnerable and has had to change policies of very long standing, which they thought had served them very well. We have a crisis that is at an advanced stage in Russia, and it could readily spread to Russia's neighbors. Turkey is always an accident that could easily happen. In my view that sort of international financial crisis would not be limited to an Asian trade effect of, say, $\frac{1}{2}$ or $\frac{3}{4}$ or 1 percent on U. S. economic growth, because it is very

difficult to imagine that that would not spill over into our financial markets and create a rather large correction.

Looking at the purely domestic economy, if the crisis that I believe could emanate from Japan does occur, the downside risk to our real economy will be very considerable. If on the other hand a crisis in Japan does not happen, the other great uncertainty is whether we will continue to have the kind of productivity growth that is projected in the Greenbook. Lower productivity growth could reduce the rise in real output to below the Greenbook forecast and raise inflation to a rate above that in the Greenbook and certainly as high as that in my own Bank's inflation forecast. Our forecast, which appears to be rather similar to a number of forecasts reported around the table, has inflation rising to about 3 percent next year. We simply don't know whether productivity will continue to "finance" more rapid economic growth with very low inflation. We have been experiencing very nice productivity improvement since the last quarter of 1995, and even a nonbeliever in the new paradigm like me eventually has to become convinced, if it goes on long enough, that there really is something new here.

Now, it seems to me that if we have this massive uncertainty on the international side and very considerable uncertainty on the domestic side and we have monetary policy close to where we want it to be in any event, there is a very, very strong case that the watchful waiting that has served this Committee so extraordinarily well over the last several years is the right policy to continue.

MR. POOLE. As opposed to unwatchful waiting not being the right policy!

CHAIRMAN GREENSPAN. President Poole, no double negatives, please!

[Laughter]

MR. POOLE. I will try not to double anything. Since our last meeting, there has been no significant change in Eighth District economic conditions. We continue to have exactly the same kind of stories about tight labor markets and firms with unfilled positions. We don't see any great upward pressure on product prices. We do have some disruptions from the GM strike, as is true in a number of other Districts. It looks as if we're going to have an Anheuser-Busch strike, but perhaps given the uncompleted stadium in Texas--

MS. RIVLIN. That is really serious! [Laughter]

MS. MINEHAN. It's the only thing that is giving Mike Prell reason to pause.

MR. PRELL. I don't drink beer! I am wondering how the record will look in five years. [Laughter]

MR. POOLE. I am told that the management of Anheuser intends to keep the brewery operating, so I guess it will become the largest microbrewery in the United States.

District housing markets remain very strong. In most markets, we have seen house price increases in the 5 to 10 percent range over the last year. Prices in the St. Louis market rose 14 percent in the last 12 months according to the data I'm looking at, suggesting that I bought my house just in time back in early April.

I would like to talk about the national outlook and the puzzle in the business investment area. If one thinks about firms that are growing over time and expanding capacity, one would expect them to be adding capital and labor and not ending up with excess capacity in either area. If we look at the capacity utilization numbers, it would appear that conditions are quite comfortable, and yet all around the country we hear stories of labor shortages, firms with unfilled positions, and an increasing amount of turnover. So, there seems to be something of a mismatch between the capital and the labor sides. That could come about because firms have

made some miscalculations, but I'm guessing that the investment outlook will remain strong because firms in this situation are going to be substituting capital for the labor that they cannot hire. We have an example in Louisville. UPS is going to be adding a huge facility, an investment of over \$800 million, to automate the package sorting that they do every night and reduce the large amount of hand labor in that operation. That is a very large investment. I hope it works better than the baggage handling system at the Denver airport, which also was automated, but I guess the Denver airport eventually straightened that problem out. Given the persisting stories that we hear about the shortages of labor, we probably will continue to see strong investment. With the capacity utilization numbers that we are looking at reflecting capital that is not in tune with the available labor or some maldistribution by industry or otherwise, we should not be lured too readily into a comfortable outlook on investment just because the capacity utilization numbers look lower than they have at times in the past.

I continue to believe that with an unchanged federal funds rate, the inflation risks are substantially greater on the upside of the Greenbook forecast than on the downside. I have not changed my views at all, so I will not repeat them.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. The most important developments since the last meeting relate to near-term growth. They include early signs of the projected slowing in inventory investment, the GM strike, and the further deterioration in foreign real economic activity centered in Asia and Japan that is threatening to spread elsewhere. The combined effects of these developments, reflected in the significant declines in both inventory investment and net exports in the Greenbook forecast, point convincingly to a sharper than previously expected slowdown in the second quarter--from well above to likely below trend growth. This, of course, follows robust

growth in the first quarter and indeed for the last year and a half. While this is history, it has left a legacy in terms of the prevailing very tight labor market that is the major source of inflation risk going forward. This risk will remain even if growth slows immediately to trend.

The significant deterioration in the foreign economic outlook is the most important change in the forecast since the May meeting. In thinking about the effect of the Asian crisis on the outlook, I like to keep in mind both the central tendency in forecasts of the spillover on the U.S. economy and the probability distribution associated with this effect. In my view, the central tendency was relatively stable earlier in the year while the probability of a significantly worse outcome appeared to diminish when some rebound occurred in the currency and equity markets of the countries in question. More recently, however, there has been both a worsening in the central tendency and a renewal of a higher probability of a significantly worse outcome. The aggravation of the central tendency reinforces the case for a significant slowing in the pace of the economic expansion going forward, while the widening of the tail associated with worse case scenarios adds an important downside risk to the forecast. The list of countries facing serious difficulties seems to grow by the day.

Nevertheless, the growth of domestic final demand remains robust. The strength reflects positive fundamentals, including continued supportive financial market conditions. This leaves some serious doubt about whether the slowdown that clearly appears to be under way will leave growth persistently below trend, a consideration that is central to the optimistic inflation scenario in the Greenbook. While I expect slower growth and higher inflation going forward, still in question is the degree to which this turns out to be a relatively benign outcome--specifically, a reverse soft landing with inflation remaining modest--or a less pleasant ending of

one form or another. There is once again a more balanced set of risks in terms of output growth, given the sorry state of foreign economic developments and the still robust domestic demand.

On balance, I expect somewhat faster growth and higher inflation than projected in the Greenbook. Like President Broaddus, I believe that an outcome in line with the Greenbook forecast would require some tightening of monetary policy over the forecast horizon. On the growth side, I wonder whether we are facing only a transitory decline in growth to below trend in the second quarter, after which growth will rebound to at least trend or higher. I wonder, in particular, if growth will remain as subdued as projected in the Greenbook for the second half when auto production rebounds from the GM strike and as the drag from nonauto inventory investment and net exports diminishes.

If growth slows to trend or remains above trend, the unemployment rate will remain near where it is today or drift still lower and the inflation outlook will deteriorate more rapidly than in the staff forecast. Even if growth slows as projected in the Greenbook, I wonder whether the staff was too optimistic in its jump-off from third-quarter core CPI inflation. I interpreted the May CPI report as incrementally reinforcing my view that there may already have been a rebound in the underlying rate of core inflation from near 2 percent to about $2\frac{1}{2}$ percent. But after a 2.7 percent annual rate of core inflation over the first five months of this year, the Greenbook projects only a 2.1 percent rate for the second half. I would be less concerned about the outlook for inflation if the staff turns out to be on the mark about where the underlying rate of inflation is today. That jump-off point, the higher productivity trend produced in the last Greenbook about which I am also skeptical, and the 0.3 percentage point downward revision in the CPI inflation in 1999 due to technical revisions combine to yield the Greenbook's still low $2\frac{1}{4}$ percent core CPI inflation for 1999.

Finally, I am concerned that when the trend in the dollar reverses, it will be more dramatic than the staff projects. When the fundamentals in terms of relative cyclical growth rates and real interest rate differentials tilt against the dollar, I expect the surging current account deficit to reinforce the decline in the dollar, potentially yielding a much sharper reversal of the exchange rate than is projected in the Greenbook. That would add to the inflation rebound in 1999 and beyond.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. Like many around the table, I find the Greenbook forecast very appealing. It would be nice if it were right! I think that if the forecast turned out to be right, we would find ourselves in a situation that is extremely interesting, unusual, and uncertain but not difficult. By that I mean the soft landing would get us out of the difficult choice between our domestic responsibilities and our international ones.

We have had so much good news over the last year or so that it is nice to think that good news is normal. The domestic economy has certainly been performing extremely well by even the most demanding standards. Growth has been very strong and well balanced. Labor markets have been tighter without adverse inflation consequences for longer than any of us would have thought possible. Wages have been rising but not yet at an alarming pace, and prices have been astonishingly well behaved so far. Capacity has increased and whatever we think about the permanence or impermanence of the productivity increase, it certainly has been there when we needed it to help keep wage increases from pushing either prices up or profits down. The pace of growth last year and the acceleration in the first quarter of this year were clearly unsustainable by anybody's measures. There is no way we could keep adding to payrolls at that

rate without running out of workers and ending up with the proverbial bottlenecks that have been so amazingly absent from the current boom.

Without an impending slowdown, we clearly would be tempted or required by any serious economic analysis to use the only tool we have to slow the expansion down. But we are saved by a forecast that shows the growth rate dropping like a rock under the combined impact of inventory retrenchment and the worsening Asian crisis. So, we have to hope that the Greenbook is right or at least roughly right and that the slowdown will occur or indeed has already occurred. I certainly agree that the evidence points to slowing, but I am skeptical about the break being as sharp as the staff believes. My guess is that we will be back in August with a domestic economy that is running a bit faster than we think it sustainably can and with more signs of domestic inflation. I am not too worried about that because I think the dollar also is likely to stay strong and that the anti-inflationary inertia is currently a very potent force. By that I mean that the low inflation expectations and the pervasive belief of the business community that they have no pricing power because market conditions are so competitive are keeping inflation in check.

If the forecast is substantially wrong and growth does not slow much, then we really have a difficult problem. The problem arises primarily because in some respects at least we are not just the central bank of the United States. We are an institution with world responsibilities, whether we like it or not. If by August or sooner, it is obvious that the U.S. economy is continuing to run hot, then we have a serious dilemma, especially if the world outlook is as precarious or even more precarious than it looks now. We can tell ourselves that the best thing to do for the world as well as for ourselves is to keep the U.S. economy growing on a sustainable track, and therefore we better slow it down by raising rates. But we would then be taking the

risk of making the world situation even less tenable and perhaps precipitating another round of competitive currency devaluations that could lead to a prolonged global depression. That is not an attractive set of choices, so we had better hope that the Greenbook forecast is right.

Of course, there is also the possibility raised by several around the table that the Greenbook is wrong in the other direction. The sharp slowing could cut investor and consumer confidence. The stock market could turn to rational nonexuberance and we would be faced with a soft economy and rising unemployment. That would be unfortunate but not particularly hard to manage from a policy point of view. The world would be quite happy with our cutting interest rates.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Thank you, Mr. Chairman. At one level it might seem that this meeting is more of the same, but as our earlier discussions have brought out, there have been subtle differences on the policy question since this expansion has proceeded. Beginning with the domestic economy, the first quarter was unsustainably rapid by almost anyone's definition. But because of the inventory swing, the damping influence of the stock market, and net exports, I guess I'm in agreement with the Greenbook that growth is slowing on its own to roughly a sustainable path. One could argue that policy should tighten some to help this process along, but I suppose I am more comfortable with the view that policy should sit still and let the slowdown occur naturally, especially in view of the surprisingly good performance of inflation.

Turning to the international economy, others have said this and I will repeat it: We should not as a general rule make policy by trying to stabilize international currency values. Our best contribution to the world economy is to keep our own house in order, our own inflation rates low and stable or perhaps zero and stable, and our own real output growth healthy and

sustainable. But the Asian crisis is unique. At every meeting we hear about new countries on the danger list. The last time it was Russia and Brazil. This time it is Pakistan and South Africa. The next time we will have a number of other countries, perhaps. The linchpin is Japan, and over the last few meetings conditions there have been described in bleaker and bleaker terms. The Japanese are now finally considering closing some banks and disposing of their assets, but over what seems like a rather relaxed schedule. Even if they do this, this step is only a necessary condition to arrest their downturn, not a sufficient condition. In the short run, closing banks is likely to be contractionary, not expansionary. I think it is almost inevitable that Japan's rebound will be delayed, at least in relation to the Greenbook timetable. To turn their economy around, they probably need a large and permanent tax cut, exactly the item omitted from their recent stimulus package. Until they do this, and perhaps go beyond, both the Japanese economy and the yen probably will fall further, reducing growth prospects in the rest of the world including the United States.

Adding all this up, I am still roughly comfortable with the present policy. Given the incipient slowdown, tightening is probably not now called for in this country. Internationally, one might argue, as my colleague to my right does or seemed to a minute ago, for tightening and letting the yen depreciate a little. But given the asset situation and the inter-country links within Asia, that is a rather dangerous stance at the present time. I think there is a very strong argument for continuing the watchful waiting policy that we have been following and waiting for the risks to clarify. Who knows when they finally will?

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Thank you, Mr. Chairman. A strong thread has been running through the discussion all afternoon relating to the stark difference between the domestic and the foreign

outlook. It is leaving us with an unusual and bifurcated decision mix that I find rather uncomfortable. If we think about the United States economy domestically and in isolation from foreign impacts, we see a very, very strong economy. It is coming off a very robust first quarter. Job formation continues strong, unemployment is very low, business and consumer sentiment is sky high, credit is readily available on reasonable terms, the federal budget is balanced, the stock market is strong, and so forth. It is true, of course, that first-quarter growth was heavily influenced by inventories and that part of the economy is probably in the process of rebalancing. But I think of inventories as having a rather transitory influence that is going to hit the economy in one direction or the other from time to time, and we have to look past that. Looking forward, it is very hard for me to see the domestic economy slowing spontaneously to or below any reasonable definition of sustainability for any extended period of time. That scenario clearly has the potential of being inflationary at some point. My fear is that we may be close to that point. An incipient inflationary trend may now be starting to become visible, and I think that trend should be countered.

However, internationally, as we know and as we have been discussing, we perceive a totally different view of the world. Asia is the centerpiece, especially Japan. We have been discussing that at length and I will not replay the discussion. The problem is not only Asia. Western European economies look very good right now, but they have a major challenge on their hands in making EMU work. Of course, they have clawing on their doorstep. Much of Latin America is fragile as usual, and it seems to me that they are at a watershed where they could very possibly institutionalize a major, strong, and lasting breakthrough, which would be wonderful, or they could fall back into stagnation for another decade.

It seems to me that for the United States to embark on a round of policy tightening right now could be very destabilizing from an international standpoint. How do we position policy in view of this bifurcation? The Federal Reserve creates policy obviously in the national interest of the United States. But the state of the world around us is certainly part of that national interest for obvious reasons. In my judgment, the precarious state of the world economy seems to preclude tightening by the Committee at this time, or maybe I should just say at this meeting. The international impact may yet prove to be just the right thing to offset the rising pressures in our domestic economy, and we may indeed get the Greenbook's soft landing scenario. I hope so. But I have to say that I do increasingly fear that at the end of the day we may have to pay a high price for delay.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. I think I'm the last to speak, so I will try to be brief. We received a number of signals during the intermeeting period. Many of these indicators point to a continued uptrend in the economy, perhaps at a slower pace but not necessarily one that is without inflation risks.

As others have said, jobs continue to be plentiful. The labor market is tight. April's 4.3 percent unemployment rate was not a fluke. Indeed, for the year through May, the unemployment rate averaged about 4.5 percent, which is probably below anyone's reasonable estimate of the NAIRU. Disturbingly, these labor markets are clearly creating some conditions for wage-induced inflation that in my view are noticeably stronger than earlier. Average hourly earnings increased 4.3 percent over the past 12 months, up from 3.9 percent in the prior 12 months and in turn up from 3.3 percent in the 12 months before that. In addition, the so-called indicators of worker insecurity appear to have turned toward increasing security. President

Broaddus talked about his son. The median duration of unemployment is not normally two weeks but it is down to about five weeks from eight weeks previously. The quit rate is back up and labor force participation has not grown further.

I recognize that productivity increases may offset some of the nominal wage increases, and in this regard I am hopeful that the staff is right and in fact I think that they probably are. However, the difference between nominal wage gains and productivity growth, even assuming some uptick in productivity trend, is growing ever larger. In my view, the gap between wage gains and productivity growth is putting increasing pressure on businesses to translate some of these wage gains into price increases, particularly if the growth of profit margins is slowing.

Someone mentioned earlier that the yield curve was flattening. As I see it, the flattening is being driven more by the long end than the short end, which does not suggest to me a slowing of the economy. In fact, it might be having a stimulative effect. So, I believe we should be cautious about putting too much weight on the flattening. Finally, as others have said, the strength in labor markets is feeding unabated demand for consumer goods, and interest-sensitive goods, housing in particular, have continued to display strength.

Others have talked about the Greenbook forecast, and I will quickly give my read on it, which is not dramatically different from that of others. The staff suggests that the extremely strong economic picture is going to be cooled to lower growth rates by net exports, correction of inventory overhang, and some moderation in the PCE uptrend. I think there is at best only the barest evidence in support of this deceleration story.

The net export story, as the Greenbook indicates, is actually more past than prologue. The staff forecast says that the worst of the direct retarding impact from net exports already occurred in the first quarter and that going forward we are likely to see less of a direct impact

from that sector of the economy. Therefore, we are relying on a multiplier-accelerator story to achieve the desired results, as I think Mike Prell suggested in response to President Poole's question.

Similarly, with respect to the slowdown in inventory accumulation, I think I'm in the same camp as President Minehan. Inventory-to-shipment ratios in manufacturing have edged up only slightly, and they remain below where they were in January. Wholesale inventory-to-sales ratios also seem to be quite well behaved. Admittedly, maintaining these ratios does not require a continued \$100 billion annual rate of inventory increase, but it does seem likely that there may be more of an increase or less of a slowdown than the staff expects.

Finally, the staff is looking forward to some slowdown in PCE due to a slowing in wealth creation from the stock market and a slight uptick in unemployment. The rise in the unemployment rate in the Greenbook forecast is only to about 4.5 percent this year, which I believe most of us would not regard as an indication of a loose labor market. The slowdown in the stock market may turn out, as usual, to be more ephemeral than real. So, I see some real risks on the upside, particularly with respect to the domestic economy.

There are, as others have indicated, some countervailing and potentially growing risks on the downside. The strike at GM, I think, is likely to exert a short-term but noticeable shock. The international developments that others have talked about are certainly no less certain. The one thing I could add, after coming back from Japan and talking to some private-sector forecasters there, is that I believe the base forecast that the staff has presented to us is somewhat more optimistic than those forecasters in Japan currently believe. So, there is some more downside potential there.

In summary, I believe that the risks to the upside still exist. However, none of these worries are yet realities. The staff forecast may materialize and, like others, I hope that it does. I think that the risks to the downside are a little stronger now than they were at the time of the last meeting. There obviously is continued international instability. On balance, I would go with the word "uncertain" in characterizing the outlook. The future is quite uncertain and I think no action is required on our part, either up or down. The more prudent course is, again, to wait and see. It appears to be the most responsible among the difficult choices that we face. The next meeting may have a different outcome, but I think this is the appropriate outcome for this meeting.

CHAIRMAN GREENSPAN. I think we have time this afternoon for one last item on the agenda. You may recall a fairly elaborate paper that was circulated entitled "Issues Arising from the Zero Constraint on Nominal Interest Rates." I don't think we will want to get involved in a particularly long discussion of this issue, but I do think it's probably worthwhile for Don Kohn to take a few minutes to summarize the paper. Then we will see how much of a discussion we wish to get into before we adjourn for the evening. Don.

MR. KOHN. I will try to be brief, Mr. Chairman. My colleagues, David Reifschneider and David Small, who did much of the work on the paper are seated at the table. Hopefully, they will answer your questions!

This study was prepared in response to a discussion at the February meeting of the Committee. A number of you noted that for several decades the Committee had focused on reducing inflation from high levels that were clearly unacceptable. The inflation rate was now low enough that it seemed appropriate to consider how much further it should go down and what trend rate would be most consistent with maximum economic growth. That nominal interest rates cannot go below zero is one aspect of such a consideration. This zero constraint comes into play when inflation is low because nominal interest rates also are low at the same time. If in this situation the economy is hit with a downward shock and policy is eased and if the economy is then hit with another downward shock or policy eases too slowly, the Federal Open Market Committee could find itself constrained in

its ability to continue to support the economy and the economy could worsen further.

Very briefly summarizing the results of the paper, one is that being caught at a zero bound nominal rate is probably a very rare event. Policy errors are one reason the Committee could get caught there, and that is more likely, obviously, when the starting point is a low inflation rate. Being caught at the zero nominal bound could have very serious consequences.

There were two ways that the study approached this issue. One was by looking at history. The 1930s in the United States provide one example of monetary policy caught at the zero nominal bound, particularly from 1932 through most of the rest of the 1930s. In the 1990s, the approach of the zero nominal bound in Japan seems to have constrained policy there.

The other way the study looked at this was through model simulations. There it was shown that hitting a model of the economy with shocks representing unexpected events, the zero nominal bound tended to present problems and tended to produce longer and more frequent occasions when the economy was producing below potential after starting from an inflation rate of 1 percent or lower.

A second suggestion of the paper was that the Committee can structure monetary policy actions to reduce the odds of ending up at the zero nominal bound by being more aggressive in countering downside surprises when inflation is already low. Now, this can be seen to some extent in the one place in the paper where the staff looked at an alternative to a Taylor Rule that had more aggressive coefficients so that the Federal Open Market Committee reacted more strongly to output and inflation gaps. That is a symmetrical kind of reaction. One can also imagine an asymmetrical reaction where the Committee reacts particularly strongly to the threat of deflation when inflation is already at a low rate. But it is not easy to implement such a policy. The Committee needs to identify the surprise, needs to be confident that inflation is moving down to dangerously low levels, and needs to be willing to take risks by moving aggressively against deflation or a potential deflationary shock. The Committee needs to take the risk that if it is wrong, inflation might re-emerge and the Committee would then have to counter that--would have to reverse course. So this asymmetric strategy requires a willingness to take risks.

A third conclusion of the paper was that once the Committee finds itself at the lower bound, its options are limited. Fiscal policy is probably the most effective way of stimulating the economy when monetary policy is trapped by the zero bound, but the central bank cannot count on the fiscal authorities, as we certainly are seeing in Japan today. The monetary authorities have at their disposal some fiscal-type actions that they could

take, for example, making loans to private parties at a subsidized rate, which the paper did not consider on the thought that it was more a part of fiscal policy than monetary policy.

Unorthodox monetary policy may work, but it obviously would have to be through channels other than reducing short-term interest rates since they are already at zero. Those channels might include reducing expected short-term rates by tilting down long-term rates, or reducing term or risk premiums in long-term rates. The latter also would tend to reduce long-term rates and exchange rates as well.

Pumping up the monetary base by itself would be unlikely to be effective in doing either of these things, that is, reducing short-term rate expectations or term and risk premiums. Such increases in the base would tend to go into excess reserves and there is no obvious reason why that would change expectations about future rates. Tilting open market operations to a limited degree toward bonds or foreign exchange also is not likely to do much. Studies show that modest changes in the supply of bonds, Operation Twist kinds of things, do not have much effect on bond yields. Sterilized intervention, which is what in effect such foreign exchange buying would be, also does not do much. However, massive purchases of bonds or massive intervention might. The Federal Reserve did set the rate on government bonds during World War II. If a central bank were willing to purchase all the supply of government bonds, it could set the bond rate again, and presumably this would feed through to corporate borrowing rates as well. So, there are extreme policies involving massive purchases that should work in lowering term premiums and risk premiums.

In considering how low inflation should go, the zero bound is only one part of the calculations. There are a number of other potential costs and benefits. On the benefits side, the paper did not deal at all with the extra growth, productivity, or efficiency that might result from an economy operating at very low or even zero rates of inflation. Unfortunately, it is hard to quantify with confidence the gains from going to zero inflation or the costs of the zero bound.

A final question is whether there are any implications of this analysis for the Committee's consideration over the next couple of years. For one thing, there could be a practical policy issue at some point. Right now, of course, the funds rate is at 5½ percent and the risk, as a number of you already have noted, is for inflation to be rising. A zero bound problem does not seem to be in the cards, but it is not impossible to imagine a situation involving lower inflation and lower nominal interest rates. We have tended to overpredict inflation over the last few years. I think one of the lessons from the United States in the 1930s and Japan in the 1990s is that problems have tended to follow sharp breaks in asset prices coupled with sluggish

monetary responses because the authorities were concerned about re-igniting asset price increases or inflation and with destabilizing fiscal policy because the fiscal authorities were focused on budget balance or long-term surplus. Given the level of equity prices today in the United States, I don't think we are invulnerable to a sharp break in equity prices, the initiating step in this sequence. And if it came on top of a situation somewhere down the road in which foreign economies were worsening and the dollar was appreciating, it is not beyond imagination to think that this kind of situation might be one where the Committee might consider whether it wanted some strong asymmetric responses to downward shocks to the economy.

From a different perspective, the Committee might want to consider whether it has anything useful to communicate to the public about the long-run context of its policy decisions. If the Committee had a sense that it would lean hard against inflation rates that tended to drop to very, very low levels or to zero, there might be some benefit from laying out the issues for the public. It would allow markets to anticipate such actions and such anticipation might help to bring down long-term rates. You will remember that one of the problems in Japan in the early 1990s and in the United States in the early 1930s was that it took long-term rates a long time to come down, presumably because markets were anticipating that the authorities would bring rates back up again. If the Committee were not going to do that, it might be useful to inform people. That also would promote a public debate, understanding, and accountability of how the Federal Reserve interpreted the price stability mandated in the Federal Reserve Act.

Now may not be the best time. Since the Committee is worried about inflation going up, there would be a risk of misinterpretation if it started to talk about a supposition that inflation might get too low. But at some point in the future, I think a public discussion of these issues might be constructive for all concerned. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. Thank you. Questions for Don?

MR. POOLE. I think this is a very nice piece of work, but if I were assigned a job of refereeing it for a journal, I know that it would take me two or three days, maybe a week, of hard full-time work to get through the paper and get to the bottom of it. There are a lot of very interesting but very important technical issues affecting how the staff gets these results. I think the overall issue is extremely important as a backdrop to a decision, which I hope we will reach at some point, that our long-run policy goal is zero inflation properly measured, whatever that might

mean in terms of the actual CPI. I believe we need to be clear about all the technical issues involved before we actually confront this as a live issue. I would propose that this paper be put into whatever is the appropriate form and sent out to four or five academic specialists in macroeconomics who approach these issues from different perspectives to give us the best professional opinions. I have spent so little time on the paper that I hesitate even to comment on it. I spent a couple of hours reading and thinking about it, and I have thought about these issues before. I don't know whether you want to get into a substantive discussion on this, Mr. Chairman.

CHAIRMAN GREENSPAN. I will tell you one thing that I do not want to do and that is to send this out of this room or out of this building and have it leaked to the newspapers. If that were to happen, it would give all the wrong signals. I don't know how to avoid having somebody leak it.

MR. POOLE. I agree. Obviously, if it is going outside, it would have to be done in a way that would not cause us grief from that point of view.

CHAIRMAN GREENSPAN. I don't know how we would do it!

MR. KOHN. I think, Mr. Chairman, the staff does intend to try and re-dress the paper and put pieces of it out, the model simulations in particular, as a working paper in the working paper series here. There is another paper on this general topic that has been presented at college seminars by other Federal Reserve researchers. There has been a publication of a paper by Brian Madigan and Jeff Fuhrer on this issue. I think we could take the paper out of the immediate policy context so that people would not know that the Federal Open Market Committee had been working on it, and we could get academic comment on it. It has been done before.

CHAIRMAN GREENSPAN. If you feel confident, I feel confident as I shake! [Laughter]

MR. KOHN. I feel less confident now than I did a few minutes ago! [Laughter]

MR. POOLE. This is an issue that has been discussed in the academic literature for a long, long time.

CHAIRMAN GREENSPAN. I know and it is a crucial issue. A couple of years ago we had an extended discussion of the Akerlof, Dickens, and Perry paper. It is a very crucial issue, and I think it is important for us over the long run to get a fix on it. I am concerned about the press looking for any indication of what we might be thinking. I would be worried about creating the wrong sense of our thinking.

MS. RIVLIN. In any case, though, I think we should take up what I heard as Bill Poole's offer to give it a very serious review. [Laughter]

SPEAKER(?). That would commit him to a week of hard labor!

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. I think that getting other input on the paper, if a way can be found without creating all kinds of problems for us, would be very desirable. But like the research that was done a couple of years ago on the costs and benefits of reducing inflation, I have a difficulty with the starting point. To reduce inflation from any inherited situation implies initial conditions and policies that set in motion certain dynamics as opposed to starting from the premise that we have stable purchasing power of money. Stable purchasing power of money does not mean that the prices of all assets or goods or services are unchanged. What it means is that the weighted-average of relevant price categories is not rising or falling.

Once we start from that concept of the stable purchasing power of the currency, which is the idea we are trying to implant into the minds of decisionmakers--households and businesses alike--I think we come out a little differently. Suppose that is our initial condition and we then

have a favorable productivity shock, maybe like the one we have had in the last couple of years. That means an increase in the purchasing power of money because the weighted average of prices that are falling exceeds the weighted average of prices that are rising. There is some literature on this, the work that George Selgin and others have done about the productivity norm for inflation. A couple of economists in Britain also have done some work on that issue. A central bank can conduct a monetary policy in that environment through a monetary base arrangement of supply and demand for central bank money. It does not create problems of the type that I see in this paper derived from the Taylor framework. So, even if we consider a Taylor framework approach, there is another or different way of approaching the same question that I do not see included in this paper.

MR. KOHN. I think a favorable productivity shock, even in the context of this paper, would not present the Committee with a problem for the reasons that were discussed earlier in this meeting. Such a shock tends to raise the equilibrium real interest rate and it tends to boost growth. I think what becomes an issue in this paper is downward shocks to demand.

MR. JORDAN. That is why I referred to initial conditions. We do not get that liquidity trap effect where efforts to increase the monetary base only add to excess reserves unless we start with the initial condition of inadequate aggregate demand. If we start with a favorable productivity shock and we have stable purchasing power of money, then the real rate of return to real productive capital has actually gone up. We don't have a problem then. We only have it in this inadequate excess demand framework.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I just wanted to comment that I was struck by the juxtaposition of a highly theoretical and really interesting paper that we received at the same time we got a paper

on the real world that shows that the Japanese government and the Bank of Japan are faced with the same range of choices that the staff put on the table in the theoretical paper. It was fascinating to read the two as companion papers, as I did, and realize that the theory matches the reality fairly closely. That theory says that the Japanese do not have much they can do other than massive fiscal intervention or massive depreciation of the currency. We know depreciation of the yen is not going to be a healthy choice for a lot of reasons. So, massive fiscal intervention seems to be their only option.

I think it is a good idea to get the theoretical paper more thoroughly vetted. I would worry, however, about some of the untried monetary policy options that are mentioned in the paper including operations in the futures market and in the options market and making direct loans of a significant size to nonbank borrowers. I think all of those options, if they were perceived as really under consideration by the central bank, would create difficulties for us.

MR. KOHN. I think the intention, President Minehan, was to concentrate on the modeling part of the paper, not on the other part.

MS. MINEHAN. I see, although policy options do get included to a minor extent in some of the variations you put into play in the modeling exercise. In any event, the paper made me conscious of the fact that there are a lot of other papers on this subject that I read a long time ago, and I am going to go back and reread them. So, I thank you for that.

CHAIRMAN GREENSPAN. Over the weekend?

MS. MINEHAN. Likely more than a weekend.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I think this is a very interesting, useful, and important study. I would agree that it involves a very difficult subject to study, and all of us probably should spend a lot

more time with it. I think Don Kohn hit on most of the quite interesting issues that I saw in the paper. I found the one about taking more vigorous or aggressive action a fairly significant point. If we are operating under a Taylor Rule, I guess in effect what we are envisioning is that we have higher coefficients on the two gaps that cause policy to move more aggressively. It may also cause policy to move in a more preemptive way, which we can do even under a Taylor Rule if we have forecasting. So, I think that is interesting.

The other interesting point relates to what may be, at least in terms of these models, the advantage of setting a goal that is a little above zero. The simulations seem to suggest that if we have 1 to 2 percent inflation as our goal, we would run into the zero bound constraint very few times. Again, this is in terms of the simulations in those models, but I think it's a quite interesting result. I frankly did find some of the alternative policy options interesting, in particular the "put" option to bring long-term interest rates down; perhaps it does have some practical relevance to real world situations.

I want to make a couple of additional points, which may be related to some that Bill Poole brought up. It seems to me that a deflation with zero interest rates is somewhat similar in effect to a break in history in the sense that we have estimated a Keynesian model over a period of history where we really have not had this basic condition. So, it may not be all that strange that the results are not particularly satisfying, as often would be the case if we had a break in history.

It also is conceivable, although I basically buy the Keynesian approach, that we may have regime shifts at different points. In hyperinflation we may have a different regime than we would at zero inflation. Although I know you looked at some different models, they did not seem to me to involve complete regime shifts.

The third point is that I would like to see somebody, maybe Bill Poole, give the monetarists' explanation. I have seen an article where Friedman has offered some comments on this issue. After all, not everybody in this world believes that we should focus solely on interest rates and therefore that central bank purchases of securities do not accomplish anything when we are at zero interest rates. They do increase the monetary base, and if one believes that quantities are what is important, that can have an impact. I would like to see other viewpoints, which we could get in a conference. I don't think it has to be a forum the Committee would necessarily endorse, but we should try to get the views of other people who have thought long and hard about these issues over the years. This staff paper is a good work, but I think it is a good work in a particular religion. We might look at a few other religions.

CHAIRMAN GREENSPAN. I just realized that the paper could go out without difficulty and sensitivity if it were sent out by Ted Truman. [Laughter] It is so obviously the Japanese issue and not ours.

MR. GRAMLICH. You would have to simulate it with a Japanese model, though.
[Laughter]

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADDUS. Bob Parry already made my point and I would just underline that this is an interesting paper. It is an important subject, and I think it deserves discussion. If there's a public perception problem, then I think we could, at least as a starter, have a very robust discussion within the System. There are a lot of people on our staffs who are working on this issue and are interested in new approaches using different models. It seems to me that would be something we should consider as a first step.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. I want to support the point that has just been made. I think we have enough intellectual resources within the System that have not been brought to bear on this paper because of the shortage of time. It was very difficult for any of us to spend enough time on it, let alone to have an in-depth discussion with our staffs on it. I think that a robust discussion within the Federal Reserve System, which certainly does not create the security problem that I believe is a very real one, would be much to be desired.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Much has already been said, but I want very briefly to reiterate some of President Jordan's comments. If I understood correctly, this model's parameters were developed in a period when we had declining inflation. I believe it is very important, though, that we look at it in the context of zero inflation and a stable economic situation and then evaluate the effects of shocks. I believe that would be very important. A broader discussion or conference on this issue probably would bring out that kind of analysis.

CHAIRMAN GREENSPAN. Are you suggesting what the topic at Jackson Hole will be next year?

MR. HOENIG. I am open to suggestions.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. I thought this was a very interesting and very useful study and entirely relevant, not only to what is going on in Japan but to the low inflation environment that is now in place throughout the developed economies of the world. I would feel more confident about the results if they were replicated in a variety of other models. I would be particularly concerned about the rational expectations focus of the FRB-US model relative to some other econometric models, but I would like to see it played out in a variety of models.

What I found exciting in the paper were the implications for both policy strategy and for policy objectives. I think it is a very relevant point that when we have a situation where inflation is low and we don't have much room to move nominal rates, we can compensate for quantity with speed and more aggressive moves. This notion of asymmetric responses to downward versus upward shocks is a very interesting one. Having said that, I am a little skeptical that the Committee would be willing to move as aggressively as is contemplated in those models, given uncertainty and the need to build broad consensus for policy changes.

On policy objectives, I see this as a part of a long discussion that we seem to be having a couple times a year with regard to how we would set an explicit inflation target if we ever decided we wanted to set an explicit inflation target. One of the reasons I liked this study was that it reinforced my view that an appropriate inflation target would be price stability plus a cushion where this cushion was related to the potential adverse consequences of setting too low an inflation target. I would like to see further work along these lines and I would be delighted to see outside reviews of this study.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. I, too, thought this was a useful study, especially in terms of getting us to think more concretely about our objectives. We do have a lot of talent available within the System. We could spend time profitably with some further analysis and discussion of all of this.

I did have a couple of reservations about the study at least with the way I interpreted what we have here. One is a point that Don Kohn touched on that I would emphasize. It is that if we think there are significant long-term benefits to low inflation in terms of productivity and growth and so forth, then worrying about what we might do in terms of countercyclical policy seems to be a second order question. It almost has the flavor of saying that while we have a

distortionary tax in place we want to leave it in place right now even though it adversely affects the economy because it gives us something to do if conditions turn bad. I suspect that there is some problem with that, and I would like to think this through more fully.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. President Stern has picked up my point. I thought the paper was very interesting, but in some sense quite inwardly focused because it is all about what we should do. It missed what for me is an important point, the one in the Akerlof paper to which the Chairman alluded. I guess I would like to see added to this study some sense of the impact on the real economy from having inflation at various levels. Is 2 percent inflation right? Is zero inflation right? Which one does better in terms of productivity, in terms of investment, in terms of flexible labor markets? I think it would be useful to have a summary of the information that is available on this issue. Otherwise, we are aiming at a target that may have very little to do with our general goal of creating an economy that is performing well overall.

MR. KOHN. Unfortunately, we did turn the best minds in the System loose on that three or four years ago, and they could not reach a conclusion. [Laughter] They could not show that there were benefits from reducing the rate of inflation below 2 or 3 percent.

MR. PRELL. Given the turnover of the Committee, it probably would be sensible for us to recirculate that material, at least to all those who have not received it.

MR. FERGUSON. We also have to put it in a broader context. Those of us who have recently been confirmed as Board members had to go through a bit of grilling by a few senators on why we did not think an inflation target might be a good idea. It is easy to dance around that issue, but it would be nice to attack it directly.

CHAIRMAN GREENSPAN. We have to be a little careful. I think we have demonstrated in this country in the last four or five years that the notion that was held rather tentatively, namely that low inflation has a very significant and favorable effect on long-term economic growth, is now being held very firmly. In other words, the experience we have just gone through has really demonstrated statistically or at least has added a few important data points that corroborate the crucial importance of low inflation on maximum sustainable growth. If we start to get into a mode of worrying about not getting down too close to zero inflation, we may inadvertently introduce a strong inflationary bias in our deliberations. I would worry about that. We have to be a little careful about keeping the appropriate balance in our discussions because it can be very easy for us to conclude that it would be a disaster if we got to zero interest rates and got to the type of phenomenon that Japan is experiencing. We may be tempted to conclude that the simplest way to avoid that situation is to keep inflation at 5 percent, which means we will end up with inflation at 10 percent. That's a slight exaggeration.

MS. RIVLIN. That's not where we are now!

CHAIRMAN GREENSPAN. It's not where we are now, but I just want to stipulate that these types of discussions can take on a bias that we never intended them to take. We have to make sure we are wary of that.

VICE CHAIRMAN MCDONOUGH. I agree. That is the magic of the verbal rather than the numerical definition of price stability.

MR. GRAMLICH. I have the unenvied position of being chair of the Board's Committee on Economic Affairs, and I have been wondering about not having a whole lot on our plate. [Laughter] One thing this Committee might do, as some already have suggested, is to organize a conference. If we were to do that, I think we definitely should open it to people

outside the System and get different economists in on this. I would like to see us get representatives from different countries, and in Bob Parry's terms, different religions as well--rational expectations, monetarism, and so forth. I personally would like to have somebody take a look at the costs and benefits of different inflation targets. Maybe these are well-trodden issues, but I have not seen too much on them since I've been here, and in any event I think some new studies are being produced. So, I would not give up on that. How best to do this is something I might volunteer to think about with the staff. Again, I do think our study should be broadened beyond the System because there is a lot of academic talent out there that both insulates us and improves the academic product.

MS. RIVLIN. There is this nice lake in Wyoming where one might do this.

MR. GRAMLICH. We can talk about that, too.

CHAIRMAN GREENSPAN. That is not a bad idea. Can we assume that you will put some suggestions together and circulate them to the Committee for comments?

MR. GRAMLICH. Yes.

CHAIRMAN GREENSPAN. It's not that everyone will necessarily accept your view, but it would be a vehicle by which we could get some form of collective judgment on where this gets carried to.

MR. GRAMLICH. Sure.

CHAIRMAN GREENSPAN. Does everyone agree with that?

[Secretary's note: Several members expressed agreement.]

CHAIRMAN GREENSPAN. Does anybody else have something they want to say on this subject?

I forgot to mention earlier that, as always, you have time to revise the projections you have submitted. Dave Stockton will be the recipient of revisions, and the date is?

MR. BERNARD. Close of business on Monday.

CHAIRMAN GREENSPAN. Close of business on Monday. If you have any revisions, please give them to Dave Stockton prior to COB Monday. Buses are leaving from here and from the Watergate at 7:15 p.m. for dinner at the U.K. embassy this evening.

[Meeting recessed]

July 1, 1998--Morning Session

CHAIRMAN GREENSPAN. Good morning. We'll begin with a discussion of our longer-run objectives for money and debt growth. I call on Bill Whitesell to start us off.

MR. WHITESELL. The Committee again must decide whether to make any adjustments in the ranges for money and debt growth, which have been unchanged since mid-1995. In recent years, the Committee has been interpreting the monetary ranges as those that would be consistent with price stability and normal velocity behavior, while the debt range, by contrast, has remained fairly well centered on the staff's projected growth rate for this aggregate. One reason for adopting this rationale for the monetary ranges was uncertainty about the behavior of velocity early in this decade.

The handout reproduces several charts from the Bluebook that examine more recent evidence on this issue.^{3/} Chart 4 depicts the relationship of M2 velocity to opportunity costs--defined as the three-month Treasury bill rate less the weighted-average interest rate on M2 assets. Breaking the analysis into four subperiods allows for shifts in the level of velocity--the largest by far being that of the early 1990s. The elasticity of V2 with respect to opportunity costs was held constant across the four subperiods at its value estimated over 1977 to 1990. The panel on the lower right indicates that, after allowing for a level shift in the early 1990s, M2 velocity has had about as close a relationship to opportunity costs recently as it did in the past. Chart 5 plots the percentage deviations of V2 as predicted by opportunity costs from its actual levels. For the recent period, while the errors tend to run in the same direction for a while, they are not larger on average than those for other historical periods.

But even if M2 velocity is again as predictable as it was prior to this decade, it may not be predictable enough. Suppose the Committee decided to center a range of 4 percentage points in width on its forecast of M2, which was based on its desired growth of nominal spending. If M2 began to move out of that range because of a departure of GDP from expectations, the monetary aggregate would be providing an appropriate signal for policy. However, M2 may at times diverge from its range not because of movements of GDP but because of unforeseen interest rate changes or noise in money demand. Such divergences would be reflected in errors in forecasting velocity, which are investigated in the upper panel of Chart 6. The solid line shows the errors in the Board staff's predictions in February of the annual growth of M2 velocity, based on Greenbook interest rate assumptions. The parallel dashed lines show a 4 percentage point range

^{3/} Copies of the charts are appended to the transcript. (Appendix 3)

around the projections. There were six cases in the last 15 years in which errors in predicting V2 were outside that range. The dotted line adjusts the errors in V2 for deviations of the federal funds rate from Greenbook assumptions; two of the six velocity forecast errors exceeding the range width could plausibly be attributed to unforeseen interest rate changes, while the other four were evidently noise in money demand

This analysis suggests that if you do again use a range for M2 that reflects M2's forecast growth for the year, you should expect on occasion a departure from that range because of unpredictable elements in money demand and not only because a change in policy was needed or was made.

Despite the uncertainty in money demand, M2 still seems to be of some use as an economic indicator. For instance, there is a strong correlation between the growth of M2 in one year and the growth of nominal GDP in the next. Another example of the indicator value of M2 is shown in the lower panel of Chart 6, which plots surprises in nominal GDP relative to the staff forecast along with surprises in M2 adjusted for the effects of deviations of the funds rate from Greenbook assumptions. The positive correlation suggests that incoming data on M2, which are available well before the final GDP numbers, give some guidance on contemporaneous developments in nominal spending. The Bluebook provided a similar analysis of M3, not shown here, and found that the forecast errors for the velocity of M3 have been slightly larger than those for M2, while the relationship of M3 to GDP is a little weaker than that for M2.

The final page of the handout is a table from the Bluebook showing the staff projections for money and debt growth and three alternative sets of ranges for the Committee's consideration. We expect that growth of money and of debt will slow from their robust pace over the first half of this year, largely because of a deceleration of nominal spending. In addition, the differentials between the growth rates of these aggregates and nominal GDP are projected to narrow in an environment in which longer-term interest rates edge up and the stock market slips off a bit. Committee members may have a somewhat stronger outlook for money and debt growth than the staff, as the central tendencies of your forecasts for nominal GDP exceed the Greenbook projections by something in the neighborhood of $\frac{1}{2}$ percentage point for this year and 1 percentage point for 1999. This would imply higher money growth by similar amounts, other things equal. However, a couple of you noted yesterday that you had assumed a higher funds rate in making your forecasts, and that would damp money growth. For instance, a funds rate $\frac{3}{4}$ percentage point higher by the end of this year would mean nearly a percentage point weaker M2 growth over 1999, and the combined effects of the stronger nominal GDP and this higher funds rate could be roughly a wash.

In 1998, M2 and M3 are projected by the staff to grow appreciably faster than their current ranges, shown in alternative I, and M3 is expected to exceed its current range next year. Alternative II shows ranges reasonably centered on the staff projections for money and debt growth for 1999, albeit with the midpoints of the M3 and debt ranges a bit below the staff projection on the thought that the Committee's concerns about inflation pressures suggest that you would rather round the ranges down than up. Alternative III could be used if the Committee wished to adjust the range for the debt aggregate downward further to make it consistent with the expected growth of debt under conditions of price stability, assuming the members see trend nominal GDP growth at price stability of around 3 percent, as does the staff.

While the monetary aggregates have some value as economic indicators when considered in the context of a variety of other variables, it is now widely recognized that the monetary aggregates are not suitable for a role as intermediate policy targets. Nonetheless, ranges for money and debt growth can be a useful means for the Committee to communicate to the public. If you prefer to avoid attracting any attention to these financial quantities and have no intention of using them in policymaking, then leaving the ranges for 1998 unchanged and carrying them forward to 1999 might be your choice. You could also use the ranges to communicate to the public the rate of inflation you believe to be consistent with maximum economic growth over the long run; this might be true price stability as implied by the current monetary ranges, or perhaps a small positive inflation rate that allowed some flexibility for policy above the zero bound on nominal interest rates. The latter would imply an upward adjustment from the current ranges.

Alternatively, ranges based on annual projections for money and debt could help inform the public about your expected annual growth of these aggregates, which could be useful, particularly if you had some sense of what growth rates would begin to raise concerns for you. Rapid money growth relative to the ranges might be one factor you could cite in explaining a policy tightening, particularly if it were preemptive in nature. Such projection-based ranges would also be closer to the spirit of the reporting mandated by Congress. Projection-based ranges need not be linked to any greater emphasis on the monetary and debt aggregates in policymaking. The Committee could make clear to the public that the forecast ranges were not at all policy targets and perhaps go even further to state that no additional weight on the aggregates was intended by a return to projection-based ranges. On the other hand, retaining price stability ranges for the monetary aggregates does not preclude your giving them more attention in policymaking.

CHAIRMAN GREENSPAN. Questions? No questions! I guess you created some sort of record around here.

Let me just give my impression of this policy issue. We currently have a set of targets that we believe encompass monetary growth under conditions of price stability, and we have had those targets for a considerable period of time. The moment we change them is the moment we essentially will be saying that price stability was a good idea, but let us be a little more flexible. I feel very uncomfortable with that. I think that until we really perceive a change in the role of the aggregates and we decide that our policy actions are likely to be reflective of their behavior, staying where we are is not a bad idea. Interpreting what the money supply is doing in the context of a range that we stipulate as a price stability range has a certain meaning that in one sense may even be superior to our targeting the expected growth numbers and making a judgment about whether our forecast is good or bad. Our forecast is far less important in a broader sense than the range that is consistent with price stability. We have fallen into a pattern of setting the latter sort of ranges for the monetary aggregates, which frankly is not a bad idea. In my view, we should consider very seriously the possible advantages of any move away from those ranges because once we do so, we are going to open up a whole set of new issues that we will have to address. I'm not sure we have as yet arrived at a point where we as a group feel reasonably confident about the stability or predictability of the monetary aggregates, at least as far as I can judge from our discussions.

I meant to ask a question before I got into my impression of our use of these targets. Your data show, as we have seen before, that the recent acceleration in M2 growth may merely reflect a reversion of velocity to normal. Given that we had not previously seen that sort of velocity behavior since 1992--your actual versus calculated velocity was going straight up starting in 1993 but it now seems to have turned around--would the turnaround in fact be a necessary condition to restore the previous relationship?

MR. WHITESELL. Absolutely, and that is what that graph shows. We may sometimes be in danger of trying to overinterpret wiggles in money demand. There does seem to be some tendency over time for money demand to return to levels estimated by opportunity costs, aside from the periods where we have had major shifts. Instead of breaking past history into subperiods, we alternatively have estimated money demand over a time frame--1964 through 1988--that has a very gentle uptrend in M2 velocity. It could be that over long stretches of time we have had some substitution out of monetary assets into alternative investments that is reflected in rising velocity. When the increased availability of bond and stock mutual funds became very apparent to households in the early 1990s, especially with a steep yield curve at that time, there was a burst of substitution out of monetary assets. It seems that that phenomenon has stabilized over the last few years, and there has not been what we had feared would be a continuing substitution back and forth between bond and stock mutual funds and monetary assets. Of course, the stock market has not really been fully tested yet for that result. It does seem to be the case that the velocity of M2 is returning to the same type of relationship to opportunity costs that it had in previous periods.

CHAIRMAN GREENSPAN. I would presume that the staff forecast, which I do not see on this chart, is in effect going back to assuming a type of relationship between opportunity costs and velocity that prevailed earlier. Is that correct?

MR. WHITESELL. To some extent, I would say yes. Obviously, we do not have--

CHAIRMAN GREENSPAN. The staff forecast would have to take account of various new variables including mutual funds, since sometimes they work and sometimes they do not, or incorporate "fudge" factors.

MR. WHITESELL. The staff forecast actually is in the first two columns of the last table.

CHAIRMAN GREENSPAN. I don't see it relative to your calculated values. In other words, these charts are based on models.

MR. WHITESELL. Right.

CHAIRMAN GREENSPAN. What I do not see here is how the forecasts relate to the velocities and the deviations of V2 from a simple relationship with opportunity costs. Is the forecast going back to the zero deviation from opportunity cost on Chart 5?

MR. WHITESELL. Projected M2 growth continues to be slightly above nominal GDP growth so velocity would be edging downward in 1999 as well.

CHAIRMAN GREENSPAN. But will the gap reach zero?

MR. WHITESELL. I'm not sure if it exactly hits the opportunity cost line. Obviously, we are projecting that the opportunity cost itself will be flat. I'm not sure where velocity exactly hits on a level basis, but it gets very close to that opportunity cost estimate. We had some special factors affecting M2 over the first half of this year. We had mortgage refinancing effects, which boosted M2 growth. We had very strong tax payments in the second quarter that also provided a boost to M2. Those factors will unwind over the second half of the year, but we still are projecting a velocity decline this year for the first time since 1986. We anticipate that M2 growth will be returning to a rate closer to that of GDP next year when the temporary effects disappear. We do try to speculate about portfolio effects such as those associated with shifts in expected rates of return, substitution effects, and possible wealth effects--so-called rebalancing effects. There also could be transactions effects associated with

high payouts of capital gains and retirements of equity that will boost M2 growth temporarily, but our knowledge of these effects is very speculative.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, I agree with your comments about the ranges. I, too, would not want to choose the ranges on the basis of a projection that is consistent with a forecast. I would prefer to set them on a basis that is consistent with price stability. I would suggest, though, that that approach might strongly support the choice of alternative III because all the ranges in that alternative, including the 1 to 5 percent range for debt, are intended to be consistent with price stability. As it turns out, the projection for debt suggests that this might be a good time to make the change.

CHAIRMAN GREENSPAN. Vice Chair.

VICE CHAIRMAN MCDONOUGH. I am somewhat sympathetic to President Parry's view, but I think this is a dog that is better left not barking in the night and bringing attention to the ranges at this time. We would have a lot of explaining to do if we said that we were reducing the debt range to move even more in the direction of price stability. I'm not sure that opening up that argument would be very convincing or worth the trouble. The move would occur at a time when most of us are concerned that, if we look purely at the domestic economy, the likelihood is that monetary policy might have to be tightened. I think giving a signal that clearly would be interpreted as a weakening of monetary policy would be a terrible idea. Although I sympathize with President Parry's view, I believe we are better off if we retain the present ranges for all the aggregates.

MR. PARRY. I'm not sure I understand what you mean by "weakening of monetary policy."

VICE CHAIRMAN MCDONOUGH. In other words, I would not change the debt range even though I think you probably are correct intellectually.

MR. PARRY. But if you are reducing the range, that is the opposite of weakening.

MS. MINEHAN. He meant weakening debt growth.

MR. PARRY. Oh, I see.

VICE CHAIRMAN MCDONOUGH. I think we should not make any changes that would increase the monetary ranges, and therefore the fine-tuning of the debt range--which is really all you are suggesting, is it not?

MR. PARRY. Yes, just the debt range. No change to the other ranges.

VICE CHAIRMAN MCDONOUGH. I think that would bring attention to the subject that we do not need.

MR. PARRY. I see.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Let me offer an alternative perspective. I think that the current price stability interpretation allows target ranges for money growth to be set independently of both the current forecast and projected policy and therefore to be ignored in the policy process. Switching to a projections interpretation is therefore closely connected in my view with a return of money growth to a more important role in setting monetary policy. An expanded role, as noted in the Bluebook, need not be in the form of a rigid target with policy responding aggressively to deviations of M2 growth from its target. But an expanded role would at least signal that money growth would be more important as an indicator variable, and that deviations of money growth from a target range would be one of a number of considerations that would affect the course of monetary policy.

I look forward to the return to a projections interpretation of the money growth ranges for two reasons. First, I believe it is more consistent with the spirit of the Humphrey-Hawkins Act. Second, I believe it would increase public awareness of money growth, and this could be useful at times in explaining the need for a change in policy. In particular, this might make it easier to explain the need for a tightening of monetary policy during a period when robust economic growth pushes money growth above its target range.

The staff reports that V2 continues to perform as well relative to its determinants as was the case before the deterioration of such performance in the early 1990s. This progress report is similar to that made at virtually every meeting at which we have discussed this topic during my two years on the Committee. So, the question is if not now when? What additional hurdles do we expect M2 to jump through and over how long a period before we accord it a new role? In fact, the bar seems to have been raised.

A second question has been put in the discussion of the Bluebook for this meeting. Was velocity ever stable or predictable enough to justify a more important role? This, of course, is a relevant question. My assessment is that money growth did play a useful role earlier and that it may, therefore, be ready to resume a somewhat more important role going forward. A greater role for money growth in the policy process might be facilitated both by returning to a projections interpretation of the range and by the identification of a long-run target for money growth consistent with the Committee's inflation target. We implicitly identify such a target today as the midpoint of the current money growth ranges, which we have interpreted as being consistent with price stability. Many countries have either adopted an explicit inflation target or have given a more central role to money growth in policy deliberations, insuring a nominal anchor for monetary policy and its communication.

If we decide not to adopt an explicit inflation target, according money growth a more important role in the policy process and establishing a long-run target for money growth would be a natural alternative. In considering the long-run target for the money growth rate and indeed in specifying the numerical range under the price stability interpretation, I think we also need to take into account the analysis of the implications of the zero nominal interest rate bound we discussed yesterday. The current price stability interpretation of the money growth ranges is set with the midpoint for M2 growth at 3 percent, corresponding to about a ½ percent inflation rate for the GDP price index. If we decide that the appropriate long-run inflation target is true inflation plus a cushion, then the long-run money growth target for M2 should be raised.

So what about alternatives I, II, and III? Alternative III remains unattractive despite its consistency. It doesn't make sense to move to alternative III if the ultimate objective, as in my case, is to move from the price stability to a projections interpretation of the ranges. I personally am ready to move to a projections interpretation of the ranges, though in this case the numerical ranges in alternative II should be adjusted to make them consistent with a FOMC consensus forecast. The staff, however, does not have the necessary information to make the adjustment because they need the FOMC's projections of short-term interest rates as well as nominal income.

Let me suggest a few possibilities. First, it might be appropriate for the Chairman to note in his upcoming Humphrey-Hawkins testimony that the Committee is moving toward paying somewhat closer attention to money growth, if there is some agreement here that that is the case. Second, perhaps we could ask the staff to adjust the alternative II ranges to make them more consistent with the Committee's forecast and for them to think more about how to accomplish this. Third, perhaps we should retain the alternative I ranges at this meeting but keep

track of the adjusted alternative II ranges and see how useful they are relative to forthcoming developments in M2 as we think about our policy choices over the months ahead.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. I come at this issue from a position that is opposite from Governor Meyer's and closer to yours, Mr. Chairman. I think that the value of the aggregates in terms of communications focuses on the long term rather than the short run. I went back to look at the original language of the Humphrey-Hawkins legislation, and I concluded that the focus of that language is on communicating the ranges that the Committee plans for various aggregates. Since the enactment of that legislation, the Committee has been explaining how difficult it is to plan for any of the aggregates and how they are affected by numerous variables. It seems to me that for short periods of time, like a half year for 1998 and a full year for 1999, we are better off focusing on our longer-term goals rather than trying to project or establish plans for variables that are subject to an enormous amount of change, as evidenced by all the factors that we talked about earlier. I think the communications value of these aggregates is better if they focus on longer-run objectives.

I also think that by keeping the ranges where they are, we do not lose the value of M2 in our own deliberations. The point was made earlier that it is widely recognized that monetary targets are not intermediate variables. They are in the array of variables that we look at to determine what is going on. We may be able to look at them with more confidence now that relationships seem to have stabilized a little. That is a good thing. But that does not mean that we have to change these ranges just because we are looking at them with somewhat more seriousness and perhaps using them to a greater extent than we did before.

I think the communications value of these is exactly the way you put it. I could go with either alternative I or alternative III. My inclination is to stay where we are.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. My reading of the ranges in recent years is that they are almost completely ignored by the public primarily because the financial markets realize that money growth does not play an essential role in the Committee's deliberations on the course of policy. That was my perception when I became a member of this Committee. I think the ranges can serve a useful function in conveying our attitude about a policy on inflation in the long run. I would leave it completely to the Chairman as to how he believes he can most effectively use this opportunity to convey the Committee's views. I certainly share the view that a move to alternative II would be very unfortunate because I think it would be read in the context of some relaxation of our concern about inflation. The question as to whether we have alternative I or alternative III or III-A or something else along those lines, I would leave completely to the Chairman's discretion to choose whatever he thinks he could use most effectively in conveying our views.

I, of course, have some sympathy with Larry Meyer's statement that the aggregates should play a more important role in our policymaking. That is certainly my view. But I think the Committee has to get there first in terms of our actual use of aggregates in the making of policy before we announce to the world that that is what we are doing. So, although I have a lot of sympathy with that approach to policy, I don't think it would be a good idea to make the announcement and then not carry through on it.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, I agree with the way you have presented this. I do not think we should change the ranges for the monetary aggregates nor do I think we should go to alternative III. As you said, we backed into a situation where the ranges emphasize our commitment to price stability and that approach is serving us well at this point. Therefore, I would change the ranges only if for some reason they stop serving us well, or as President Poole said, if we start using money growth in a serious way for policy purposes. Then, I think it would be desirable for us to increase public awareness of money growth. But at this point, I do not think we should make any change.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. I am sympathetic to the position that you laid out initially, Mr. Chairman, and while there is some intellectual case for changing the debt range, I do not think it is worth the effort at this point. I therefore would be for keeping the ranges as they are.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you, Mr. Chairman. A year ago at this meeting, I felt 1 to 5 percent was the right M2 range for 1998, given an economy operating at most people's notion of full employment, and I still think that. A year ago, I thought that if money growth was coming in above the 1 to 5 percent range, repeating the experience of late 1996, we should be adjusting the level of the funds rate, and I still think that. I thought a year ago that if money growth was coming in above the staff projections for late 1997 and the first half of 1998, it would be telling us that nominal income growth was exceeding their GDP forecast, that there was an error in the GDP forecast. I still think that. So, I still think that the 1 to 5 percent M2 range was right, is right, and it tells us that policy is not appropriately calibrated.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. I, too, favor what is being called the price stability approach to these ranges, so alternative I is certainly fine with me. It seems to me that at the abstract level, there is a potential problem with going to something like alternative II. That is, if we allow for the normal lags between money and nominal GDP or money and inflation, we might inadvertently set ourselves up for a situation where we would be prepared to tolerate or accommodate or perhaps even produce more inflation than we wanted in the future as a consequence of raising those ranges. So, at the abstract level, I would not be comfortable with that.

At the practical level, if we were to raise the ranges, that might be seen as acceptable in the unusual situation where we would explain that inflation had been low. It is certainly our perception that the public views inflation as being low. But to say that inflation will be low and therefore we are going to raise the money ranges just does not intuitively make any sense to me.

CHAIRMAN GREENSPAN. So unintuitively it does? [Laughter]

MR. MEYER. Could I just point out that the Committee is accepting that view in its policy decisions. Are you saying you don't want to communicate that to Congress because we will not look disciplined enough?

MR. STERN. I'm sorry, I didn't follow.

MR. MEYER. The price stability range is not the range we are aiming for next year.

MS. MINEHAN. Maybe we are!

MR. STERN. I guess part of my view of this, Larry, is that I don't think we have the ability to be all that precise in forecasting M2 or any of these other variables. We just are not that precise. I am not troubled by two facts. One fact that does not trouble me is that next year's projection of 4 percent M2 growth is not right in the center of our range. I would not be

astonished if M2 wound up growing 3 percent next year, say, as opposed to 4 percent. But also we have not had any trouble explaining those ranges to Congress in recent years. I'm not even sure the issue has come up in recent years, but we certainly haven't had any problem when it has come up in explaining why money growth deviated from the ranges. Congress seems to have been fully satisfied with those explanations, at least as best I can read the situation.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. Mr. Chairman, I agree that we should let sleeping dogs lie as far as these ranges are concerned. I would not disturb them. I have long believed, though, that we should keep these monetary aggregates alive for possible future use. When I look at Chart 4, especially the southeast corner that shows the relationship between the opportunity cost and V2 in recent years, I am somewhat surprised at how close the relationship has been. I lived through those years and I don't recall being aware that it was behaving so well. I wonder if that may be a result of some revisions of the money numbers or something like that. I agree with President Poole who said that we should use the aggregates in our policy before we tell the public that we are using them in that way. But if the relationship stays as close as it appears to be in that graph, I think that (1) we should be paying more attention to the aggregates in our policy and (2) we should occasionally refer to them publicly because there will come a time when the best way to explain what we are doing will be in terms of the growth of the aggregates. We don't always want to have to say that we think interest rates should be higher.

CHAIRMAN GREENSPAN. In every presentation of monetary policy that I have made to the Congress, I have had some reference to the money supply for exactly that reason, to keep the aggregates alive. We do not want to shift back to some emphasis on the aggregates and have somebody ask where that came from. In my recent testimony before the Joint Economic

Committee, I commented that the pickup in M2 growth had our attention even though we did not yet feel comfortable about the forecasting capability or indicator capability of M2. After all, we are the central bank. What we produce is money supply.

MR. MCTEER. When I read the financial press, though, I get the impression that nobody thinks we are looking at M2. The reporting is all in terms of other things. So, I do not think that the aggregates have broken through to the consciousness of the financial writers.

CHAIRMAN GREENSPAN. President Guynn.

MR. GYNN. Thank you, Mr. Chairman. I would join those of you who argue against making any changes in the current ranges. Presidents Minehan and Poole made the arguments the way I probably would have made them. I will repeat only one of those arguments, and that is that I do not see anything about the current construct that takes away our ability to give whatever weight we wish to give to the aggregates we have selected for our ranges. In fact, I would argue that having money growth trending above what we consider to be the price stability ranges keeps the issue in front of us to a greater extent than would adjusting ranges to fit experience. So, I very strongly prefer retaining the current monetary growth ranges, and I would not tinker at the current time with the range for debt. Thank you.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. I agree with President Guynn. I think it is very important for us to keep track of what ranges are consistent with our views of long-term price stability. That does allow those of us who are focused on them to remind the rest of us that we are experiencing above trend growth. I think that actually provides for a useful discipline. I also took note, as did President McTeer, of the southeast corner of Chart 4 that indicates that stability may be returning to these relationships. For me, that provides a little hope that there

might be some increased discipline in those ranges and therefore all the more reason to keep them alive. So, I would not change them right now. I would keep the monetary growth ranges focused on long-run price stability, and I look forward to a day when we might start to use them more seriously in our deliberations.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, I, too, believe in the price stability approach for setting the long-run ranges. In my view, there continues to be a long-term relationship between money growth and inflation, and I think we will be returning to the use of money aggregates in the not very distant future. Therefore, I would support either alternative I or alternative III.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, I also would not make a change now in the ranges for either of the two time periods. In the case of the second half of 1998, I agree with President Minehan that the Humphrey-Hawkins Act primarily focuses on what the Committee plans for the aggregates. That implies that we are setting ourselves a benchmark. To change the ranges in the middle of the year would be to destroy the value of that benchmark and fuzz up the reasons why it was adopted. In the case of making a change for the year ahead six months in advance, a reason for doing that might be that the Committee wanted to signal a major change that was ahead. And we may--I emphasize may--have a candidate for such a change here if we want to send a signal that the aggregates are now much more on the front burner than they have been. But I would say that if such a signal is desired, it might be better approached by developing some kind of information release and having the Committee debate it and perhaps adopt it, rather than simply changing the ranges at this meeting. I think a change at this point could prove to be counterproductive.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I, too, concur with keeping the ranges where they are. The fact is that we do look at the money supply numbers and we discuss them along with a lot of other variables, but in my time on this Committee we have not really used them to set policy. I would need a lot of convincing to believe that we should. That leaves me, of course, with some sympathy for the Meyer projections approach, but I come out thinking that leaving well enough alone is the best policy.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Thank you, Mr. Chairman. I also am opposed to changing the ranges and interpreting the ranges as goals. I would retain alternative I, but I would point out that these are stochastic goals and they involve relationships. For those of you who are tremendously influenced by the bottom panel of Chart 4, relationships do come and go. I would like to put in a plug that if we ever do change these ranges, I think we should put on the table the notion that I tried last time of widening them. But for now, I'm happy to stick with alternative I.

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADDUS. Mr. Chairman, I strongly agree with your position. My main focus is on M2 rather than M3 and the debt aggregate. Like others, I think the current 1 to 5 percent range for M2 plays a couple of critical roles. First, I am very strongly of the view that it clearly signals our ongoing commitment to price stability. In fact, one might argue that this range is the only formal nominal anchor that we have. I think it also provides an early warning system when actual money growth begins to deviate on the upside as it has recently. It helps to signal that. So, in a sense it holds our feet to the fire. I think Bob Parry has a point. I certainly

would not object to going to alternative III, but I guess the disadvantages of making a change with the questions that might raise probably would lead me to continue to prefer alternative I.

One other point I would make is in the context of the possibility that we may want to use the aggregates in a more operational way going forward. The Bluebook does not have an alternative now that shows what we would have to do to get back into the 1 to 5 percent M2 range by the end of the year, and it might make sense just as a starting point to have something like that in the list of alternatives.

CHAIRMAN GREENSPAN. It appears that there is fairly general consensus for no change, which is alternative I. Would you read the language encompassing that alternative?

MR. BERNARD. That will be from page 22 of the Bluebook. The first sentence is the usual general sentence on the goals of the Committee: "The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. In furtherance of these objectives, the Committee reaffirmed at this meeting the ranges it had established in February for growth of M2 and M3 of 1 to 5 percent and 2 to 6 percent respectively, measured from the fourth quarter of 1997 to the fourth quarter of 1998." Then, skipping beyond the bracketed sentence: "The range for growth of total domestic nonfinancial debt was maintained at 3 to 7 percent. For 1999, the Committee agreed on tentative ranges for monetary growth measured from the fourth quarter of 1998 to the fourth quarter of 1999 of 1 to 5 percent for M2 and 2 to 6 percent for M3. The Committee provisionally set the associated range for growth of total domestic nonfinancial debt at 3 to 7 percent for 1999. The behavior of the monetary aggregates will continue to be evaluated in the light of progress toward price level stability, movements in their velocities, and developments in the economy and financial markets."

CHAIRMAN GREENSPAN. Call the roll.

MR. BERNARD.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes
Governor Ferguson	Yes
Governor Gramlich	Yes
President Hoenig	Yes
President Jordan	Yes
Governor Kelley	Yes
Governor Meyer	Yes
President Minehan	Yes
President Poole	Yes
Governor Rivlin	Yes

CHAIRMAN GREENSPAN. The next item on the agenda will be introduced by David Lindsey. He is pinch-hitting for Don Kohn who may have a sore back. Is that why you are not at bat swinging?

MR. KOHN. I had more important things to do over the weekend, Mr. Chairman. My son got married! [Laughter]

CHAIRMAN GREENSPAN. Mr. Lindsey.

MR. LINDSEY. Thank you, Mr. Chairman. The long-run simulations shown on Chart 2 following page 9 of the Bluebook provide one way of placing the Committee's short-run policy decision in a longer-term strategic perspective.^{4/} The solid lines show a baseline extension of the Greenbook forecast for ten more years, along which the economy makes a reasonably smooth transition to the steady state implied by the staff model.

With the current nominal federal funds rate, shown in the upper left panel, held in place through the year 2000, real GDP growth--not shown--remains below the growth of its potential just long enough for the unemployment rate, in the middle panel, to return to the staff estimate of the NAIRU of 5.4 percent by late 2001. During the interim, inflation in the lower panel--as measured by the core PCE price index--gradually rises to a 2¼ percent pace, which is maintained thereafter. During this time, the rise in inflation combined with the steady nominal federal funds rate causes the real funds rate, in the upper right panel, to edge lower. A declining real federal funds rate is consistent with rising unemployment as the effects of

4/ A copy of the chart is appended to the transcript. (Appendix 4)

the earlier increase in equity prices on consumption abate, as investment spending throttles back, and as the trade deficit continues to widen.

Once inflation levels off in 2001, the process of declining real federal funds rates is continued through very gradual policy easings of the nominal federal funds rate. The real funds rate stays on a gentle downward glide path toward the long-run equilibrium real interest rate of 2½ percent embedded in the staff model.

The dotted lines convey the effects of a tighter stance of monetary policy in the near term that is designed to achieve eventual price stability. By the end of this simulation, inflation has been reduced to ¾ percent, only a bit above the assumed remaining measurement bias. To achieve this result, the nominal federal funds rate is raised to a little more than 6 percent by late this year, and is held there through the end of next year. The boost to the real federal funds rate depresses real GDP growth enough to raise the unemployment rate to a bit above 6 percent in 2002. Thereafter, the unemployment rate can be gradually returned to the NAIRU.

The Committee could view the baseline simulation as a successful strategy. With ¼ percentage point of the updrift in underlying inflation offset next year by the further methodological improvements assumed in the Greenbook, the measured core rate ends up no higher than the rate prevailing early last year. If the Committee could accept this inflation outcome and also views the extended staff forecast as plausible in terms of a “best guess,” it may be inclined to stand pat on policy for some time, as under alternative B, at least until the economic outlook starts to diverge from this baseline scenario.

If the Committee were dissatisfied with the prospect of a reversal of some of the recent deceleration in prices, it might be inclined to tighten in the near future, perhaps at the current meeting. The 25 basis point rise in the federal funds rate of alternative C in the Bluebook would be a halfway house along the road to the increase of around 50 basis points that characterizes the tighter strategy.

Of course, both simulations could be viewed as based on an overly sanguine set of longer-run structural relationships and temporary factors. A particularly obvious risk that would add weight to the case for a policy tightening is that the staff has underestimated likely inflation pressures. The recent upside surprise to CPI and PPI inflation, despite softer than expected oil and non-oil import prices, may be an early warning that the staff has gone too far in lowering its estimate of the NAIRU and in raising its estimates of the growth in trend productivity and potential output. As for the actual unemployment rate, the lower than predicted May report confirmed a 4¼ percent jumping-off point, well below any plausible

estimate of the NAIRU. And the unemployment rate would stay lower than in the baseline if the downshifting of spending to a sustained sub-par pace, which the staff considers to be now in train, does not in fact eventuate. After all, financial conditions remain accommodative and stock prices have shown remarkable resilience to adverse earnings reports.

In case the Committee foresees either a higher NAIRU or stronger aggregate demand, it might anticipate that a funds rate path something like the one in the tighter strategy would be necessary over time just to produce the resource pressures and inflation outcomes of the baseline. Tracing out the assumed path for the funds rate in the tighter strategy would require starting to tighten policy fairly soon, if not at the current meeting. If the Committee saw a higher funds rate as being necessary in the not-too-distant future, then the longer tightening action were delayed, the more aggressive would the subsequent tightening have to be. Indeed, based on this policy outlook, a tightening at this meeting could be defended as the best way to minimize the harm done to emerging market economies in Asia and elsewhere; by keeping domestic inflation relatively low, such a move today would limit the extent of future interest rate increases.

The Committee instead may view the recent deteriorating situation in Asia as posing a serious enough downside risk to the U.S. economic outlook to counsel against any monetary policy firming for some time. If anything, this risk to the outlook has become more prominent over the intermeeting period, as the lower tail of the probability distribution for Asian developments and possible contagion to non-Asian emerging market economies seems to have gotten fatter of late. To be sure, the staff has made significant adjustments to its baseline forecast in reaction to the recent disappointing news, as Peter Hooper noted. But the Committee still may be more apprehensive than before about unanticipated adverse impacts on the performance of the U.S. trade sector, which would directly damp aggregate demand, resource utilization, and inflation pressures in this country. As Peter's more pessimistic Asia scenario also noted, worse than expected Asian developments could well be accompanied by continued dollar appreciation and by extended further declines in commodity and other import prices, which would further damp U.S. inflation pressures. And these downside risks to developments abroad and in the United States would only be heightened by a tightening in U.S. monetary policy at this meeting.

In particular, an increase in the federal funds rate today would catch market participants unawares and probably induce a backup of U.S. interest rates across the maturity spectrum. Such a rate increase would be enlarged to the extent the policy tightening were perceived to reflect a Federal Reserve judgment that inflationary pressures are stronger than previously recognized, hence raising the odds of further tightening actions down the road. While the inflation premium in interest rates might rise, real interest

rates would increase as well, and the rise in real rates would make U.S. debt instruments more attractive relative to those abroad, thereby tending to strengthen the exchange value of the dollar. The associated decline in the value of the yen and other Asian currencies might be especially troubling to the authorities of China and Hong Kong, whose currencies are fixed relative to the dollar, and contribute to further instability in the Asian region.

Given the relative likelihood of the main risks in the domestic and foreign outlook, together with the relative costs to the United States if they occur, the Committee may conclude that standing pat continues to make sense. If so, the Committee would be balancing the not unlikely probability of a somewhat worse inflation outcome than in the Greenbook against the smaller, but growing and perhaps more damaging, possibility of a meltdown in Asia. The Committee's previous decisions to await more information to clarify macroeconomic trends both here and abroad seem to have paid off to date. The Committee may not yet see any compelling new consideration that would induce it to change.

As for the choice of the tilt to the directive, the enlarged risk of more surprising bad news from Asia may be seen as warranting a return to an unbiased directive. Alternatively, the Committee may prefer to maintain the tilt toward tightening on the grounds that the threat of faster inflation also has intensified considering the recent stronger than expected incoming data on consumer prices and employment.

CHAIRMAN GREENSPAN. Thank you. Questions for David Lindsey? If not, let me start.

For months, we have been concerned with weighing the effects of strong excess domestic demand, that some may have seen as accelerating, against those of a deteriorating international environment. A number of you commented yesterday that the risks on both sides appear to be escalating. Clearly, on the international side Japan, the big factor in Asia, has become an increasing concern. I will not go into the discussions we had yesterday, but there is a lethargy of policy analysis and decisionmaking in Japan that, despite the evident movement in recent days, is still going to grip that country in a way that I fear will keep it in a deteriorating condition. As I indicated last night at the U.K. embassy dinner, Japan's culture of civility makes the type of harsh actions required to restore balance in their economic system exceptionally

difficult to undertake. I am not sure what they are going to announce tomorrow with respect to banking reform or the broader package, but it is very likely to be less than many press commentaries, especially in Japan, have suggested is needed. This workout is going to be far slower and far more difficult for Japan than many have assumed, and perhaps it is not an accident that the Japan premium, instead of going down in the context of the somewhat better news reports, has gone up. We have an 800-pound gorilla problem if ever there was one, and it would be quite disturbing if Japan got into a worse financial situation.

Conditions in the rest of Asia clearly are deteriorating further, and most recently the deterioration has spread to Hong Kong and Singapore. The problem is that the Asian contagion is obviously engulfing other areas of the world. Russia is at the edge of financial collapse at this stage. How they are going to get themselves out of that is going to be a very interesting phenomenon to watch, but I believe it is a matter of weeks before the issue is going to have to be resolved one way or the other. Latin America is a little shaky. Brazil, as you know, has been experiencing some difficulties. Now that President Cardoso appears to be in a neck-and-neck race with Mr. Lula, the left wing populist who has run against him in the past, there is concern that policy may not be as sound as it should be to restore a semblance of balance in that country's economy. Argentina, as well as it is doing, is also in some difficulty, especially with regard to its balance of payments. Their imports are very strong as a consequence of a very robust and frankly quite successful economy.

The falling price of oil, which obviously has been a major factor in the Russian situation, also is having an adverse impact on Mexico, where the budget problems are quite difficult. The lower price of oil also is having an effect in Venezuela and elsewhere. No one mentioned the Middle East, but if one looks at the financial and budget implications of the

reduction in the price of oil for some of the Gulf states, though it is not something of international concern, it is part of a whole cloth.

The danger of a wider world financial crisis, while still very small, has risen beyond the point of being *de minimis*. None of us has ever experienced anything like that. Our parents did. I'm not sure that it is something we know how to forecast. We have learned, if we have learned nothing else from Asia, that forecasting financial implosions and vicious cycles is virtually impossible. We can merely look at a structure that seems to be somewhat shabby, but it is impossible to project whether that will fall in on itself or begin to stabilize. All of our models call for stabilization, but that is because of the way we build them. They are essentially equilibrium-seeking models, and we cannot effectively model vicious cycles or financial implosions. A financial crisis in these countries is a mildly scary prospect on the horizon for the United States, but it still has, by any measure that I know of, a relatively small probability of occurrence though perhaps not quite *de minimis*.

The impact of the Asian situation on the United States, while more than we expected, is really two-pronged. In an arithmetical sense GDP falls when we get a larger trade deficit. As Bill Poole insists, the word "arithmetical" should be put in there. Another factor offsets this effect in part in that the deterioration in Asia clearly has altered portfolio preferences in favor of the U.S. dollar and in favor of investment in the United States. One must presume that part of the decline in long-term interest rates is a safe haven effect, a reflection of the same forces coming out of Asia that are pulling down our net exports. The net effect of Asian developments on the U.S. economy is therefore somewhat less than the gross direct effect. The effects of the Asian difficulties on U.S. financial markets have augmented the virtuous cycle that has occurred in the United States in the last two or three years by contributing to the surge in capital

investment, the related acceleration in productivity, and the increase in stock prices associated with expectations of rising profits over the longer run. The consequent wealth effect has spurred consumption expenditures, which in turn have increased profitability and have raised capital investment and productivity and thus fostered continued cyclical expansion.

As I indicated yesterday, I believe a goodly part of our failure to forecast the extent of real GDP growth on the one hand and the surprisingly benign inflation pattern on the other is arithmetically resolved by our failure to forecast the degree of acceleration in productivity. At the last meeting, I raised the issue of whether it was possible, as suggested in widespread anecdotal reports, for businesses confronted by the absence of pricing power and rising labor costs to find new capital investments seemingly at will to offset their rising costs through increased productivity. The notion that someone can, at will, choose from a stock of potential investments goes against the view we all share that business firms always seek to maximize their economic situation. Apparently, of course, they do not.

One possibility that I raised at the last meeting was that the implicit rates of return on new investments were in fact rising. We have done some work on that since then. The preliminary results do indicate that when we try to get estimates of the real rates of return on capital investment for various vintage years, the period from 1993 forward does show a significantly higher rate of return than in the previous years. That would be consistent with the notion that the synergies that were developing as many different technologies evolved and improved in the 1980s and early 1990s created the opportunity in recent years to pick and choose almost at will among various types of technologies to get increased productivity, reduce labor costs, and indeed displace labor. If that is in fact occurring, it does explain to a substantial extent why the productivity numbers are rising. I might also say parenthetically that if we can rely on

these calculations, they do say that we have the ability to translate expected rates of return into long-term structural productivity gains, or at least into various measures of structural productivity. At the moment, while I want to emphasize that the results are quite tentative and that there are certain features of this model that I am a little uncomfortable with, the tentative results certainly are consistent with the notion that something different started to occur in the early 1990s. Indeed, if we look at the big surge in orders and shipments of communications equipment, it is obvious that we are looking at the synergies made possible by the development of the laser, fiber optics, and the micro chip--[Secretary's note: Noises from someone's watch heard at this point.]--which was just making those noises. [Laughter]

MS. MINEHAN. Perfect background noises.

CHAIRMAN GREENSPAN. I think the watch was digitally saying "right on!" [Laughter] In any event, if we look at these rapidly improving technologies, they represent the areas where all the faster than expected growth in capital investment is coming from. Such growth is occurring in communications equipment, which has benefited from a huge expansion of new technologies that are found in products ranging from cell phones to pagers to equipment incorporating a much higher level of sophistication, and obviously we also see it in the whole computer area. So, the data are beginning to confirm that something has been going on. How important it is and, far more importantly, how long it will last are significant questions. I don't think we have any way of knowing the answers to them at this point. It may well be that we have run through a specific bulge in available technologies, and the data that we have are not inconsistent with the notion that we are rapidly using up the backlog. But we don't know that with any degree of certainty. There is nothing in any of these analyses that would promote

optimism about a permanent rise in long-term trend of structural productivity growth. The data and analyses are suggestive but not much more than that.

For the moment, the data that we have still indicate that unit costs are rising at a very modest rate. Unit labor costs have picked up some, and productivity gains may be accelerating. Indeed, that is what the data for nonfinancial corporations show, but compensation per hour also is accelerating. As I said at the last meeting, I have some questions about how much confidence we can place on the extraordinarily benign behavior of the ECI as an indicator of underlying trends in labor costs. The ECI is no doubt measuring what it is supposed to measure, namely, the wage structure abstracting from the movement of people into different job classifications. But it is hard for me to believe that in today's very tight labor markets there are not numerous phony promotions for purposes of giving pay increases to selected individuals within companies, which would be politically difficult for employers to give directly. Yet, that sort of pay increase obviously will not show up in a change in the ECI. The clear evidence that such pay increases are occurring is the fact that average compensation per hour, as best we can judge, is moving up a good deal faster than the ECI itself.

Nonetheless, I think it is safe to argue that price pressures, while modestly accelerating, are not by any means overwhelming. We have been using the core CPI as our standard. I seriously question whether that is the right statistic for that purpose. First of all, the increases in the core CPI over the last three months have averaged about 2.6 percent at an annual rate. That is equal to the rate we had in 1996. On a methodologically consistent basis, the average increase is closer to 3 percent. If, however, we look at the core PCE, which is a far more sophisticated way of evaluating what prices really are doing, the average for the three months is still under 2 percent or below where it was in 1996. I do not have the methodologically

consistent number at hand to make the comparison. It is somewhat higher, obviously, but it is nowhere near the level that gives rise to the type of concern created by a focus on the recent acceleration in the core CPI. If we take the analysis a step further and go to the GDP chain weight index, which includes, of course, the prices of capital goods that generally are falling, we see an increase in the 1 percent area. Inflation probably is rising, but not at a rate that one would consider to be a matter of considerable concern. So, I think that we can talk ourselves into believing there is more inflation than in fact has occurred.

I do not deny that all these indexes show a pickup from the latter months of 1997. Were that to continue, it would set off a number of whistles. But inflation is not there yet. I think it is important for us to get a good sense of where we are as distinct from where we fear inflation is going to go. Very obviously, if a slowdown in line with what many of us are projecting or that the Greenbook is projecting does not materialize and if labor markets continue to tighten, as they have since our last meeting, what is happening to productivity will be irrelevant. At some point we are going to get a surge in real wages beyond what we are seeing now and the pressures on prices are going to be quite pronounced.

As it stands now, we are getting some pressures on profit margins, most notably in the manufacturing area. The available data for the second quarter, which are fairly rough, suggest that profit margins in manufacturing eased further after declining in the three previous quarters. Productivity, however, is still moving up at a fairly good pace in manufacturing. A goodly part of the weakness in margins is coming from general price weakness rather than significant increases in costs. But it is obvious that at some point we may get a very rapid acceleration of compensation per hour, and costs would be going through the roof. At that stage, what would be

happening to productivity would be irrelevant. That prospect is what we are all concerned about, and I think very rightly so.

For the moment, there is at least an inkling that the strength in demand is easing. The Purchasing Management's survey for June, which was released about 20 minutes ago I assume, shows a little more weakness than the market expected. It is under 50 percent. New orders remained weak. Prices paid continued to decline. This survey has no General Motors strike effect in it because it was taken well before the GM strike. Chain store sales, as a number of you probably noticed, turned quite significantly weak in June. Sales of light motor vehicles have remained quite strong, but it is hard to assess the underlying strength of demand given the extent and size of the rebates that were offered. The presumption is that motor vehicle sales are going to slip quite significantly in July from the current levels.

The GM strike is a difficult issue to deal with largely because strikes as such never cause economic weakness. What they basically do is to create a back-up of demand. When that demand is released at the end of the strike, there often occurs a surge in demand, including inventory investment, that is too strong and the economy subsequently falls into a slump. That is actually what happened after the very long steel strike in 1959, which created a major contraction in economic activity in the second half of that year. The subsequent surge in overall demand led to an inventory recession in 1960. There have been a number of instances of that type. The GM strike is beginning to get less than de minimis, if I can use the term I used before. It is beginning to look like an important development. It obviously is going to have a major impact on June industrial production. It presumably is going to have an impact in July as well, although a normal two-week shutdown is captured in the seasonal for July. As a consequence, if the strike

is over before the end of July, I assume it is not going to have so pronounced an effect on the industrial production number as in June.

Inventory investment, while very strong, still has not created any significant evidence that firms view their inventories as excessive because another statistic in the purchasing executives' report this morning indicates that there still is no particular concern among the purchasing managers in manufacturing regarding the size of the inventories held by their customers. By definition, all goods are manufactured--or virtually all goods apart from agricultural products--so that they are aware of customer inventories in all industries. However, while there certainly is no inventory overhang, it is hard to believe that inventory investment will continue at a \$100 billion annual rate. To the extent that it falls well short of that, which is what the Greenbook is projecting and what I think is the likely outcome, then the arithmetic of production suggests that industrial production will remain quite soft.

In summary, I think I expressed the majority view, at least as I heard it here yesterday, that it is too soon to judge the size of the Asian spillover into the United States in all respects. In my view at least, it is too risky to raise the funds rate at this point. I think, as David Lindsey pointed out, that the psychological impacts on Asia, Russia, and Latin America could be quite outsized and I would suspect rather destabilizing, with the ultimate impact on the United States possibly quite negative. I do not think we can make a real judgment about what the probability distribution looks like. But it is hard not to suspect that there is, to use Larry Meyer's term, a significant tail sneaking out into the high risk area. While it does not seem to be a particularly large tail, if we inadvertently tighten in an economy that is already deteriorating, we could trigger a far bigger problem.

But having said that, I would note that the labor markets continue to tighten. There is no evidence of which I am aware which suggests any material change in that direction. If the most immediate evidence of some slowing in the expansion reflects nothing more than a temporary slowdown--a possibility that a number of you have raised and I think quite rightly--then I think we face a very serious potential problem of inflationary pressures emerging out of the labor market. If that in fact were to materialize, I do not see how we could do otherwise than to respond. As a consequence, I would propose that if we decide to stay where we are today, we at least also retain an asymmetric directive to the upside. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. Thank you, Mr. Chairman. I am essentially in agreement with your analysis and with the conclusion. I do have modest differences. I believe that the risk on the external side is somewhat greater than you indicated, and it could materialize even sooner than we have anticipated. On the basis of what we now know, what the Liberal Democratic Party is going to announce in Japan on July 2, which is coming on us rather quickly, will be very disappointing to the financial markets. The big rally that we have had in the yen and the Nikkei was mainly an end-of-quarter rally as of June 30. Today, when the Nikkei rally resumed, I think the markets indicated that they are expecting far more out of the announcement on July 2 than is likely to be there. Therefore, the notion, which I think is the single biggest problem, that the Japanese government and its leading party cannot get their act together could be on us rather quickly indeed.

I agree that the Russian situation is extremely hazardous. Since one of the areas of strength in the world economy is continental Europe, a serious financial crisis in Russia, which could very quickly turn into a political crisis in a nation with lots of weapons, could easily undo some of the confidence that has been restored to continental Europe in the last year. I think a

severe worsening of the international situation is certainly not within the range of the probable, but I would describe it as a risk that is distinctly possible.

On the domestic side of the economy, I agree very much with your view, Mr. Chairman, that we do not know whether the wonderful productivity improvement we are experiencing is going to last. You laid out the basis for that uncertainty very well in your remarks. I think the likelihood that wage pressures are going to burst out is not terribly great. What would happen in my view is that in various pockets of the economy people would start to realize that they could push their employers to pay higher wages, but I think that realization probably would spread somewhat more slowly than your remarks suggested. Therefore, the price reaction might be somewhat slower as well. However, clearly if the domestic economy is to be looked at in isolation and one assumes that the international crisis will not happen, and we certainly all hope it will not, then I think we will be in a situation in which the risks to inflation are sufficiently great that, although I agree we should not change our policy today, an asymmetric directive toward tightening is certainly in order.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. I agree with your recommendation on maintaining the federal funds rate where it is today and also on maintaining the bias toward tightening. I am concerned about the prospects of an updrift in inflation. I guess I fear, perhaps more than you do, that the staff's forecast for slower expansion without some policy intervention may be too optimistic. I do recognize that there are some indications of a little slowing right now, but I'm afraid those may be short-lived. I also think, based on other information we have received from the staff, that even if there is an updrift in productivity, that may call for a higher

funds rate and not a lower funds rate in order to maintain equilibrium. So, while I am optimistic on both of those scores, I think the bias toward tightening that you recommend is right.

However, in line with what the Vice Chair has said, I also am concerned about the international component of the forecast as I mentioned yesterday. I think the external situation is not going to improve anytime soon. Therefore, I believe the wiser course for us at this stage is to sit tight. I guess ultimately this is the least unacceptable choice, but I think it is also the most responsible one. Therefore, I would make no change in either the funds rate or the asymmetry.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you, Mr. Chairman. Obviously, I am delighted with the staff's upward revisions in its estimates of productivity growth and potential output growth, and I will be even more pleased if future revisions are also upward to 3, 3¼, or even 3½ percent, which I guess was the highest in history. That would be absolutely delightful. I doubt that we will see it go above that and set a new record, but if that happens, that would be great! Nevertheless, such productivity growth is still not as rapid as the growth of demand, and that creates the problem that we have. I also am delighted with the unemployment rate being at 4.3 percent, and I hope it continues to go down. I would like to see it go to 4 percent or even below 4 percent. Low unemployment helps us to do wonderful things by providing opportunities for people. But it also sets a model for the rest of the world about what works. The longer we can sustain it, the more imitators around the world we are going to have. So, I hope we will not get ourselves into a situation where we have to take action. An unavoidable byproduct would be a higher unemployment rate. It would be not only bad for us, but also bad as a model for the rest of the world if we found ourselves faced with having to take such an action.

When I look at the Asian situation, perhaps Latin America, and certainly Russia, I think we should ease policy. Unfortunately, we do not have the luxury of even considering that option at this time, and that is too bad. Maybe if nominal spending growth, money growth, and other things over the last year had been as forecast by the staff instead of coming in stronger, the economy might be more balanced right now and we might be able to entertain that possibility. Or maybe if we had responded earlier to indications that spending growth, domestic demand, and money and credit growth were coming in a lot stronger and the current account deficit was widening, we might have had the option of considering an easing sooner. I think we are going to need to ease for the sake of the rest of the world. The sooner we create the conditions within the domestic economy that will permit us to contemplate an easing of policy, the better off we are going to be and the better off the world is going to be. Unfortunately, we sometimes have to tack; we sometimes have to go in an opposite direction from where we really want to go to get there. I want to be in a world where we not only have lower inflation, but where we have lower interest rates, rapid economic growth, and sustained low unemployment. But I think we are approaching a point where we may have to go in a direction different from where we all want to come out.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. If there ever was a time to hold steady, it is now. We have a precarious international situation that I think is as dangerous to world prosperity as we have had in a long time. We also have latitude to wait and see domestically. Our backs are not to the wall in that regard and, therefore, I think the case is very persuasive that we should stay where we are with regard to monetary policy.

As far as the tilt of the directive is concerned, I think continuing with the current tilt toward tightening is appropriate going forward. I say that mainly because I do not believe we know enough about whether it would be constructive to make a change at this point.

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADUS. Mr. Chairman, we clearly are seeing some weakness now in some of the second-quarter numbers, but it seems to me that even though the growth of final demand may be weaker in the second quarter than we thought it was going to be just a few weeks ago, it is still going to be well above trend. We have discussed the two negative impulses from inventories and net exports, but as I said yesterday, my own feeling is that they are likely to be temporary. There is a very good chance that they will not have much lasting effect on the above trend growth in final demand. Such growth is an upside risk, and I think we should take it seriously in an environment in which labor costs and the core CPI on a consistently measured basis are rising.

I still think that an increase now in the funds rate would be prudent and could well increase the lifespan of this expansion. Having said that, I recognize that for many reasons that have been expressed around this table, this would not be a convenient time to tighten policy since we are likely to get a weaker-than-expected GDP number at the end of this month and the public perception might link whatever action we might take at this meeting with that number, which would cause unfortunate problems for us.

That sort of constraint underlies the need to take advantage of opportunities to tighten policy when they arise in an environment like this. They do not arise very often, and the window of opportunity does not often stay open very long. I know people can disagree about this, but I frankly think we may have missed a couple of opportunities in the recent past that might have

served us well. So, if we see that the strength of overall demand is persisting as we go forward, perhaps as a result of an improvement in the Asian situation, and we see a window of opportunity, I believe we should take it.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. Mr. Chairman, there is no question in my view that we currently face heightened risks. On the downside, the risks discussed during our lengthy review of the economic outlook yesterday and this morning stem from developments in Asia, Russia, and other places, projections of declining inventory investment over the short term, and the possible impact of reduced profit margins on the stock market. All of these downside risks seem more compelling than they were at the time of our May meeting, if not scary in some cases. I think we have to remember, however, that given the persisting strength of the expansion, we need some of these retarding influences to rein in the growth of the domestic economy. We have forecasted a slowdown, and we are seeing a slowdown. It may be a little larger than we expected, but I think we have to worry about overreacting to it in current circumstances.

I believe the risks on the upside also have increased. We are beginning to see warning signs of rising inflation. We continue to have an atmosphere of very accommodating financial markets. We recognize that there are temporary factors at work that are still helping to restrain costs, and those temporary influences may fade away. I continue to believe, very much like President Broadbent, that we run a significant risk of excess demand whose cumulative effects may well come back to bite us in the end, and that we may have missed a couple of chances to tighten policy that we should have taken advantage of earlier.

But I also agree with you and with the Vice Chairman that the timing for a policy tightening move is not favorable today, especially as the Japanese are trying to work out

appropriate policies and there seem to be so many other potential developments that are hanging in the balance. So, I would agree with your proposal, in some sense reluctantly because I think our policy may well be behind the curve as far as our domestic economy is concerned. I would hope that we can, as President Broaddus has suggested, find a window of opportunity when a little tightening might be helpful both for us and for the rest of the world. In that regard, I would retain the tilt toward tightening as well.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, the upside and the downside risks we face are much the same as those we talked about at our last meeting, but as a number of us have said, they now seem to be more severe in both directions. The domestic economy has continued to show signs of unsustainable growth, and we now have seen some modest worsening in inflation readings. However, the international situation has grown even more uncertain since our last meeting, and I saw it firsthand during my recent trip to Japan. I think the chances of a more severe than anticipated reduction in our net exports appear to have increased.

I would just add that my experience in dealing with the Japanese government and the LDP lead me to believe that they will not act quickly and decisively to deal with their problems. Their unique culture and political processes are very powerful, and they are not likely to change in the short term. I believe it will be a very long haul.

For now, I think the uncertainties in the international outlook clearly justify waiting. However, I do think that, on balance, the risks remain definitely to the upside and that we are likely to have to tighten this year. So, I agree with your recommendation.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. Mr. Chairman, for many of the reasons you mentioned, I agree with your recommendation both with regard to the federal funds rate and the asymmetry. It does seem to me, however, that inflation is becoming a more serious problem. My greatest fear is that we may be losing the relatively painless gains in inflation we have enjoyed over the last year or so. To me that loss would be tragic. I still agree, though, with your recommendation.

CHAIRMAN GREENSPAN. President Guynn.

MR. GYNN. Thank you, Mr. Chairman. Your comments and those of others this morning and in yesterday's discussion certainly have reinforced my sense that we are seeing some signs of a slowing expansion and can identify some new, larger downside risks than we could at the time of the last meeting. At the same time the slowing in coming quarters that most of us are forecasting for the domestic economy is far from certain in my mind. Moderating developments have been in our forecasts for a long time without materializing. If we continue to get the kind of strength we have been experiencing along with other indications that policy may be too accommodating, obviously I too would be concerned that we are taking too great a risk of an uptick in inflation. Until we get more confirmation of the direction in some key sectors of the domestic economy, I also would be more comfortable with an asymmetrical directive. It would continue to serve both as a reminder to us of the upside risks in the economy and as a signal to others that we are not interested in giving back any of the ground that we have gained on inflation over time. Thank you.

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. I certainly share most of the concerns you expressed and it seems to me, given the trends that I believe are in place and at the risk of some oversimplification, that how things play out domestically largely depends on what productivity

does. Some outcomes are going to be much more favorable than others depending on productivity. I don't have a strong conviction on what productivity might do over the next six quarters, so I'm left to fall back on patience. I think patience has served us well to date. There is a danger of overstaying that hand, but at the moment I am prepared to stick with it and I support your recommendation.

CHAIRMAN GREENSPAN. Governor Kelley.

MR. KELLEY. Mr. Chairman, I am in sympathy with virtually everything every speaker has said, and I support your recommendation.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Thank you, Mr. Chairman. I agree with your proposal. I am willing to wait and see if the growth in domestic demand slows and I am mindful of the international situation, but I have a couple of comments. I believe domestic demand is stronger than is consistent with long-term price stability. We have to be very much aware of that. My other comment is that I do not want Japan's paralysis to become our paralysis in terms of what is the right thing to do. I am very mindful of that. Yes, we should wait, but I don't think we necessarily should wait until everything is perfectly clear. Thank you.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. Certainly nothing is ever going to be perfectly clear! I support your recommendation, Mr. Chairman. As I said yesterday, I think the staff may be overestimating the potential for a slowdown in the near term, but I also am very worried about Asia and the possibility of a general collapse in several foreign countries. I do not think we know what we can do to avoid that, but we know that raising the federal funds rate today is not the appropriate measure.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. In light of the sharp slowdown in U.S. economic growth that appears to have taken place in the second quarter, the increased potential for a more persistent slowdown due to the further deterioration in foreign economic activity and perhaps especially due to the substantial increase in global risk, I support your recommendation for no change in policy today. Nevertheless, I remain quite concerned about the risk of inflation going forward due to the very tight labor markets prevailing today, due to the continued robust state of domestic demand, and due to uncertainty about the degree and the persistence of a slowdown. Therefore, I strongly favor the asymmetric directive as well.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. The upside risk appears to have risen further, as it probably did at each of our last several meetings, but the downside risk seems to have gone up quite sharply since the last meeting to the point that I think the risks, even though they are both greater than they were, are now relatively balanced. I guess I am willing to be a minority of one in that, while I favor a no change policy today, I would suggest a removal of the bias toward tightening. Obviously, Asia and the spreading financial crisis around the world are the main reason. In my view, the reason is not so much because of possible spillover effects to the United States through the trade accounts or whatever. I don't know what the spillover is likely to be. I think that, on balance, it has been positive so far. But we are the world's remaining superpower and an economic and political leader in the world. We often say that China has been very statesmanlike for promising not to devalue its currency under current circumstances. I think the circumstances also require that we not upset the apple cart. So, I would agree with your no change proposal,

and I would remove the bias. I was a lot more comfortable saying that before Tom Hoenig made his soundbite.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. My concern is that meeting after meeting we are drifting into a situation that will accommodate higher inflation next year and the year after. Let me start with an assumption about the policy environment that we are going to be facing over the next few meetings through the rest of this year. The inflation rate over the remainder of this year is almost completely predetermined. We don't know what it's going to be, but whatever it is, it is not going to be much affected by what we do at this meeting or the next. However, what happens to the inflation rate is going to make a difference to the environment within which we are making our policy decisions.

I am also quite prepared to assume that our external problems or the problems in other economies are very likely to be with us, and I fear they will be with us for a long time. Consider two different scenarios for our coming meetings. First, suppose that the published CPI inflation rate remains low. That will make life easy for us. We will have the luxury of acting or not acting at any point, and we can continue a policy of watchful waiting. But consider scenario two. Suppose that the CPI starts to rise in the published data to the 3 to 4 percent range, which I think is certainly well within the realm of possibility. Then we are going to be faced with some very, very difficult decisions. Assuming the problems with Asia and maybe elsewhere in the world persist, we are going to be faced with the same unpleasant external situation but with the added pressure of CPI increases right in our faces. I continue to believe that it would be best if we were to raise the funds rate now rather than to wait for what I think could well be a more difficult environment for taking action in the future.

It is not obvious to me that a tightening move now is going to make the situation in Japan worse. What I believe the Japanese need to do is to have a consistent policy direction on a number of fronts, including a monetary policy that is more expansionary to end their deflation. Such a policy in Japan is likely to lead to some further depreciation of the yen against the dollar, and that is a constraint that the Japanese feel in part because of U.S. pressures. If an appreciation of the dollar against the yen is attributed to policy action here, it may actually make the situation easier for Japan. I don't know.

Having said all that, I well understand the judgment going the other way. There are very tricky issues in the international markets and because of all the uncertainties in the outlook that we have discussed, I am happy to support your recommendation.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. Mr. Chairman, I support your recommendation and as always I think you have made some interesting points in your analysis. I would like to comment on a few things that I heard around the table. The first is on Asia. To put in a word for something that Jerry Jordan implied yesterday and Bill Poole implied just now, some combination of a reduction in Japanese prices and the yen still seems to be in the cards. That tilts me a little more toward the pessimistic Asia scenario that Peter Hooper mentioned yesterday.

The second point is that we have not heard much about NAIRU at this meeting, but let me repeat for the record that given the slowdown that I believe is in the cards and normal econometric uncertainties, I am not so convinced that we are below NAIRU or at least that we will be below it in a few months.

My next point is on inflation. I would like to underline what you said was our focus on the core CPI at a time when there is a very large difference between that measure and the core

PCE or the GDP deflator. If we are going to put things to study on the table, I would like to put that on the table. I think there are some interesting issues here. We see some acceleration in all of the series, but they are from different levels and on the whole perhaps less worrisome levels.

I would like to support the view expressed by Al Broaddus that if we see an opportunity for raising the federal funds rate and if we become convinced that the unemployment rate is below NAIRU, we should take advantage of that opportunity. In taking it, we probably should be thinking about a bigger change in the funds rate than 25 basis points because, as we know, these opportunities do not come along too often.

Lastly, I have some sympathy for what Bob McTeer said about returning to a symmetric directive. I have been mulling over that option, but in the end I rejected it because, while it might be consistent with our current thinking, basically added uncertainty is what might lead us to symmetry and until we know or think we understand a little more about the economic situation, I would not want to attract attention to the symmetry issue. It is to some extent the same issue we talked about this morning with regard to the ranges for the monetary aggregates. So, I am for sitting still with the asymmetric directive, but I did give some thought to the idea of shifting to symmetry that Bob McTeer raised. Thank you.

CHAIRMAN GREENSPAN. I think we have a large block of potential votes going for "B" asymmetric. Would you read the appropriate language for the directive to embody that.

MR. BERNARD. The wording is from page 23 in the Bluebook.: "In the implementation of policy for the immediate future, the Committee seeks conditions in reserve markets consistent with maintaining the federal funds rate at an average of around 5½ percent. In the context of the Committee's long-run objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary

developments, a somewhat higher federal funds rate would or a slightly lower federal funds rate might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with moderate growth in M2 and M3 over coming months.”

CHAIRMAN GREENSPAN. Call the roll.

MR. BERNARD.

Chairman Greenspan	Yes
Vice Chairman McDonough	Yes
Governor Ferguson	Yes
Governor Gramlich	Yes
President Hoenig	Yes
President Jordan	No
Governor Kelley	Yes
Governor Meyer	Yes
President Minehan	Yes
President Poole	Yes
Governor Rivlin	Yes

CHAIRMAN GREENSPAN. Let’s break for coffee and then when we come back, we will discuss the subject that we postponed from the last meeting, alternatives for disclosure policy.

[Coffee break]

CHAIRMAN GREENSPAN. Mr. Kohn, would you lead us off?

MR. KOHN. Thank you, Mr. Chairman. At the meeting in March, several members suggested that the Committee consider whether some explanation should be given to the public after each meeting when no change is made in monetary policy. Two proposals were put on the table at the March meeting. One was to release the directive when the tilt was changed along with a brief explanation. Another was to release a brief statement after every meeting whether or not the tilt was changed. Dave Lindsey and I came up with a number of permutations and combinations of those proposals.

The desire for more explanation comes from within the Committee. There is no real outside pressure for more or earlier release of information. Committee members from time to time have wanted to explain the basis for a “no change” decision, notably when markets expected a change that did not occur. Some members also indicated that they thought an explanation was desirable when the Committee felt that underlying conditions were

shifting significantly though not enough to warrant a change in policy. That was the case in March. There also has been a desire at times to warn markets that a change might be forthcoming in order to reduce the odds on an overreaction because of the surprise when policy tightening or easing actually occurred. It may also be that the felt need to issue a statement when no change is made is fed in part by the limited number of actual changes. The Committee has few opportunities to comment on policy considerations outside the two Humphrey-Hawkins testimonies each year.

The question of how much to announce and how often to do so has been addressed by the Committee on a number of occasions, most recently in February of 1995. At that time the Committee had a report from a subcommittee headed by Governor Blinder, with Governor Kelley, President Boehne, and President Melzer as members. The subcommittee recommended and the Committee accepted what essentially is the current policy of announcing changes in the stance of policy. That subcommittee recommendation included the possibility of an occasional explanation of a "no change" in policy if there was a good reason to provide such an explanation, but it was expected to be rare. The possibility of an occasional public statement to explain a "no change" policy decision was announced to the public at the time. The Committee has shied away from using that option partly on the ground that members felt it would be difficult to do so just once in a while. Having done it, there would be pressures for and expectations of more frequent announcements.

No one at the February 1995 meeting was in favor of making an announcement after every meeting, although I think Alan Blinder leaned in that direction. More than three years have passed since then, and the Committee has had more experience with announcing changes, so it seems appropriate for the Committee to reconsider its policy.

In its discussions of these issues in the past, the Committee has weighed two broad considerations. Here I am drawing on the February 1995 discussion as well as Dave Lindsey's memo and other information that we have. On the one hand, providing more rather than less information is viewed as generally better public policy. It is the responsibility of a public agency to explain its activities in a democratic society, and it enhances accountability of that agency. In addition, on average and over time, markets should work better if they understand what the Committee is thinking about and what its concerns are. That is, changes in market prices should tend to stabilize the economy and help the Committee to achieve its goals. I think there are two caveats here. First, it is not always easy for the Committee to convey its intentions and concerns. They are subject to misinterpretation, certainly an experience we all have had from time to time. Second, volatility may increase if events do not validate expectations. Moreover, Committee statements help to frame press reporting and press

coverage of policy and hopefully to educate the public in that way. Committee statements or official releases give you, the members of the Committee, some guidance in your own statements over intermeeting periods. Those are the positive aspects.

On the other hand, the Committee has anticipated drawbacks to making additional announcements and releasing additional information, especially if those announcements and information feed back on the policy process itself, making it more difficult to reach the right decision. In some of the discussions over the years, the market reaction itself was viewed as a potential problem as well as a benefit. The reasoning was that if the Committee wanted to move interest rates, it would change policy. The fact that it had not changed policy suggested that it did not think conditions were right for changing interest rates. In 1995 in particular, several Committee members expressed concern that the announcement itself could lock in market expectations and reduce flexibility because it would set up situations in which the market expected some action and the Committee would then have to worry about disappointing those expectations.

One question raised at the time was whether announcing a "no change" decision would make it more difficult to implement intermeeting changes, including delayed contingent changes. In the past, the Committee has from time to time made decisions at meetings to change its policy stance in the next few days or weeks after the meetings if the data came in a certain way. I can recall a decision like that in December 1991. The Committee did not want to announce a "no change" decision and then not be able to make a change within the next few weeks if the incoming data were of a certain kind. That is why the current announcement after each meeting is phrased "there is no further announcement" rather than "the Committee has not changed its policy."

The Committee also was concerned that announcing symmetries and asymmetries could be seen as a precommitment not only over the intermeeting period but for the next meeting as well. If the directive were released, the symmetries and asymmetries would be much more consequential, partly because of market reactions. That prospect could provoke more dissents and could lead to reduced use of the symmetries and asymmetries because members would be concerned about the market reactions. Members commented at that time that the tilts had contributed to policy flexibility and consensus building, and they were concerned about doing something that would reduce the use of the tilts in the policy process.

There also was concern about the wording of the press statement. Members anticipated difficulties in reaching agreement or consensus, especially if statements were forward-looking or had implications for future action. It was not clear what to do about dissents or contrary views in the

announcements. These are problems that arise for statements made when the Committee actually changes its policy. But some of the thinking was that with no action, there was nothing to take the focus off the words themselves, and the words might be more important for a statement about why the Committee did not take action, which would be examined more for what it implied for the future than for a statement that explained something the Committee had done. At the March meeting, a number of you were concerned that the nuances of a "no change" directive with a tilt or change in the tilt could not be captured in a short statement.

In addition to these pros and cons, there are a number of other issues that you could think about in the process of reaching this decision or that would need to be thought about if your disclosure policy were going to change. One question is whether there are ways of accomplishing the objective of explaining a "no change" decision other than making an announcement after every meeting. One possibility obviously would be to implement the February 1995 decision to issue the occasional rare statement.

If the directive is released, should minutes be speeded up to help explain the directive? Even if they were speeded up, the minutes would still be released with a lag after the directive, but at least they would help to explain the Committee's decision with a shorter lag. And should the directive wording be looked at again? The Committee did look at directive wording on the tilts in August of 1997, just about a year ago, and you were unable to reach a consensus on any changes. Another issue is how to treat dissents and alternative views.

A further concern might be whether these issues should be considered in the broader context of interactions of FOMC members and staff with the public and the press. You have discussed what is appropriate and what is not appropriate to tell outsiders, but the guidelines remain informal. The question is, should they be codified or at least discussed again?

Finally, if there is a change in procedures, how should this be announced to the public? If you were to change something today, the Chairman's Humphrey-Hawkins testimony would be a natural possibility. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Boehne.

MR. BOEHNE. This is a topic that has been the basis for a lot of discussion from time to time, and I think it is worthwhile to bring it back and discuss it again because circumstances

change, people's views change, and the Committee's membership changes. I would like to provide a few observations because this is not the first time I have been through this.

I believe most of us around the table start with a bias toward giving the public more information. But I think there are two basic reasons why we should not end up disclosing the tilt or regularly making statements when we do not change policy. They come down in my view to the quality of the information that we would be releasing and the quality of the deliberations that we have around the table.

I think it is beneficial to give the public a lot of information about monetary policy, and we do give the public a lot. But giving misinformation is harmful. As an illustration, one only needs to look at the ambiguity that surrounds the tilt. Markets do not have a clear understanding of what we mean by our "woulds" and "mights." For example, some analysts say that the asymmetry toward tightening that the Committee adopted in March means members agree that a rate hike is more likely than a rate cut. Others say the asymmetry means members agree that their next move will be to raise rates, though the timing is up in the air. Yet another group says the asymmetry was meant to prepare the markets to give the Committee room to act at today's meeting or the May meeting. I recall analysts explaining not too many years ago that an asymmetric directive meant that the Committee had given the Chairman leeway to change rates between FOMC meetings, while symmetry meant the Committee had decided to tie the Chairman's hands. This ambiguity is not terribly important when the tilt is old news, but I believe ambiguity about the meaning of asymmetry in a current directive plants the seeds of considerable confusion.

Then the issue is whether we could clear up this ambiguity. The problem is that it is hard to clarify the ambiguity for the public when we are not clear about the meaning of

asymmetry among ourselves. The reason is that it has meant different things to different Committee members in different circumstances. In that kind of situation, the task of crafting an explanation that does not mislead is at best a challenging one and the likely outcome is that the effort will end up being an exercise in frustration or one that will produce boilerplate.

The second reason for not increasing the amount of disclosure is its effect on the quality of the deliberations. Quicker and more complete disclosure already has changed the nature of the Committee's deliberations. I am for the disclosure that we do, but we should not mislead ourselves about how it has changed the nature of these proceedings. I recall participating in routine, vigorous, and freewheeling debates in this room before we decided to release transcripts. Now, most of us read prepared remarks about our Districts and the national economy and even our comments on near-term policy sometimes are crafted in advance. Prepared statements were the rare exception rather than the rule until we started to release transcripts.

So the issue is how early release of the tilt will change the nature of our deliberations. I think it will. Announcing the tilt of the current directive ultimately will lead us to avoid asymmetry altogether. I think that will eliminate a consensus-building tool that has benefited our decisionmaking process and has helped avoid the hardening of positions. Announcing the tilt of the current directive when we have not decided to change policy immediately inevitably will invite more speculation and even lobbying of individuals about the timing of our next move. I suspect that over time a majority of the Committee will develop a preference for symmetric directives just to avoid these kinds of announcement effects.

In most cases when the Committee has adopted an asymmetric directive, it has voted for no immediate change in policy. There have been a few times when the Committee has

adopted an asymmetric directive along with a 25 basis point change in the federal funds rate. But in most cases, perhaps all, the asymmetric directive helped build a larger majority for consensus. I think consensus is useful, particularly, as we discussed last night at the U.K. embassy dinner, because what has evolved is a collective responsibility and accountability for this Committee rather than the individual responsibility that has developed in England. I had the sense last night that they wished they were closer to us than where they are now.

I think we send a louder, stronger message when we do change the funds rate if we have this consensus-building, collective-accountability approach. If we do not have the asymmetry available as part of our directives, I think we will see more 8 to 4 votes and 7 to 5 votes. Is that bad? Maybe not. But when I came away from the discussion last night, I sensed that we are better off the way we do things here.

The bottom line is that releasing the tilt in the current directive is not likely to give the public much useful information about monetary policy, but it is likely to reduce the quality of our deliberations and our ability to build a consensus.

That leads to the issue of releasing a statement after all meetings in which we do not change the existing policy stance but without identifying the tilt in the directive. I believe such a statement would fairly quickly lead to demands to identify the tilt. We cannot avoid making the tilt known for very long if we start to make regular announcements. What would happen if we did not announce the tilt is that outside observers would pore over every word in the announcement in an effort to determine whether there is a tilt or not. So, I think the two go together.

I personally believe that we have found about the right balance for now between the public's right to know and the public's interest in having a high-quality decisionmaking process

for monetary policy. No tradeoff is perfect, but I think that what we have works rather well most of the time. In the rare exceptions when we might want to provide some information about the tilt and our policy direction or to prepare the markets for a near-term policy change, I think we have ample vehicles to do that that are consistent with our collective accountability, notably the voice of the Chairman.

CHAIRMAN GREENSPAN. That was a very thoughtful evaluation and historical review. On the basis of my own experience, I come out at the same place. I have gone around and around on this issue and I keep ending up in the same spot for exactly the reasons Ed Boehne mentioned. Governor Kelley.

MR. KELLEY. Mr. Chairman, I strongly agree with President Boehne, and between what you and he just said, you have preempted the substance of the statement that I wanted to make. But if you will indulge me, I would like to go ahead and try to expand on what Ed Boehne said.

I did sit on that earlier subcommittee, as Don mentioned, and I strongly supported the changes that we adopted in early 1995. But I would have a very strong concern about making further changes such as those that are discussed in the Lindsey paper. There is a presumption, of course, that information released about the activities of a public body is basically a good thing, and I would concur with that view if the information meets two criteria. The first is that it will be useful and helpful to society, and in this case I think we are talking about the market and its participants and balancing in a positive way the beneficial and potentially harmful effects that may exist from that perspective. The second criterion would be that there be no negative impacts on our critical policymaking processes, as Ed Boehne suggested, or that policy's intended result is not outweighed by the benefits of an earlier release. In my view, the notion here to release

immediately fails on both of those criteria. Let me comment on both of them. Before I do, I would like to make a few points.

My first point is debatable, but I believe that if we start making regular announcements, we will very soon find ourselves locked into doing it all the time whether we like it or not. Be that as it may, I would like to call your attention to the statistics in Table 1 on page 12 of Dave Lindsey's paper. That table records 152 decisions. They include 69 decisions to change policy and 83 decisions not to change. The table also shows the tilts that existed at the time those decisions were made. I am considering symmetry to be a tilt in this analysis. Eighty of those decisions were accurately foretold by the existing tilt at the time that they were made. That is 52.6 percent of the total. Seventy-two were inaccurately foretold by the existing tilt, or 47.4 percent. That is not a very impressive guideline to future decisions. I think that is good news and bad news. The good news is that it clearly shows that the FOMC is always looking at incoming data with an open mind and is not being trapped by any previous sentiment. The bad news is that while immediate release would obviously reveal what the FOMC members were thinking as a group at the time of a meeting, the tilt is very close to being perfectly worthless as a predictor of what the FOMC will in fact do. Fifty-fifty would be perfectly worthless in this analysis.

As for the two criteria, the first has to do with the net impact on society and how it appears to the market. What would be the possible objectives of the earlier release? The first might be a better understanding of the Federal Reserve on average over time, as Don Kohn says on page 4 of his memo. To be sure, achieving that objective is highly desirable, but I don't think it necessarily has anything to do with early release of the directive. In fact, as I hope to show momentarily, early release actually would be counterproductive to that objective. With

respect to the market's functioning, remembering this 52.6 to 47.4 inaccuracy split, the market professionals who watch the Fed closely will immediately know those facts. They will learn nothing that they do not already know, and they are going to continue to do their own analysis and act accordingly. In the case of the general public, I believe that they would very soon become quite disillusioned with the lack of follow-through that they would perceive, because they are just going to look at our actions; they are not going to study the reasoning and the carefully crafted language in our releases. I personally have no doubt whatsoever that those unfulfilled tilts would harm the credibility of this Committee to the public. Would it damp volatility? I don't think so because in the short term, the tilt has no forecasting power. The speculators would respond with a "ho hum" and perhaps feed the information marginally into their assessments. Their odds on the direction of the next policy change might shift a little, but the volatility in the market would continue as speculation continued.

I would have a concern that immediate releases would leave us wide open to political demagoguery by persons known to all of us. Take this 47.4 percent of the time when the operative tilt is not followed. I can hear it right now, "the Fed is misleading the public," "the Fed is manipulating the market," "the Fed is indecisive," "the Fed has no integrity," and so forth. When we announce a tilt toward tightening, we will get an incessant drumbeat until that gets settled one way or the other. If we eventually do not act, then those who engage in demagogic rhetoric will say that they forced us to back down. If we do act to tighten, we will get the same rhetoric we get now. If we announce a tilt to ease, the demagogic rhetoric is going to ask us why we are hesitating, why we are dithering; the easing clearly is desirable; it clearly is needed; you are already late. Then, if we do ease, they will claim to have forced us to ease, but that we should have eased by 50 basis points, not 25, and we were too late anyway.

That brings me to criterion number two. To release information is good unless it affects the policymaking process and its results in a seriously perverse manner, and I think it would do that in three ways. Two of them have already been mentioned. The first is that this Committee would in my view lose credibility with the general public, and that would weaken our ability to conduct an effective monetary policy. Secondly, I think the political demagoguery would be dangerous in the sense that it would be very hard for us to ignore. The worst but not unlikely result would be that at some point we might feel obliged to assert our independence and act in a way that would be harsh and perhaps premature.

Thirdly, as Ed Boehne said a minute ago, I think that our symmetric/asymmetric convention has been very useful. It depressurizes uncertainty. It legitimizes uncertainty and it legitimizes delay when delay is appropriate. It helps build a consensus. I think that regular announcements would ultimately cause us to lose the use of that very useful convention. If the FOMC wants to change policy, then it does so and if it wants to decide on "no change plus a tilt," then that should be the result. But if we were immediately to announce the tilt without a policy move, it is very likely in my view that the announcement would move the market at least some of the time, possibly the equivalent of about one-half a policy move or maybe more, but sometimes the market would not react at all. We would never know. As we sat here and voted, knowing that the tilt was going to be released, we would not be able to anticipate with any degree of certainty what the effect would be on the market. That would create the likelihood of an unintended and unpredictable policy change. I believe that after that happened a couple of times, we would feel burned and we would very soon cease to use the symmetric/asymmetric convention. I think that would be a very important loss in a couple of ways. It would frequently force the Committee into timing decisions on a basis that it would not otherwise choose and that

might be unwise. Secondly, again as Ed Boehne said, I think it would remove a very useful and legitimate consensus-building tool.

I do not think it is any accident that there is no other central bank of significance anywhere that uses such an immediate release. In my opinion, we should not do it either. I think we have it right at this point. Let us not try to fix it.

CHAIRMAN GREENSPAN. President Broadus.

MR. BROADDUS. Mr. Chairman, I am going respectfully to take the opposite view from that supported by Ed Boehne and Mike Kelley. Incidentally, I would like to thank Dave Lindsey for his memorandum that I think laid out the choices well, especially the roadmap. That was a huge help, for me anyway.

I believe any consideration of this question of whether we should disclose the tilt immediately needs to start by asking whether the tilt is useful in general in our deliberations, whether it is released or not. I believe it is. In my view, the need to consider the tilt language forces the Committee to keep in closer touch with its consensus and to specify it more precisely at any point in time. As I see it, that facilitates our taking timely policy actions. It also allows the Committee collectively and as individual members to express a concern or an expectation on one side or the other of neutrality without necessarily favoring an immediate change in the federal funds rate. It does not always work that way with me in practice, but certainly it can in principle.

The fact that the tilt language is useful does not necessarily mean that releasing it immediately would facilitate the implementation of policy. But my own view is that doing so would be constructive, and I would cite three main reasons for that view. These have already been alluded to. First, we all know that markets do not like surprises, and in my view they work

better when they are not surprised. Releasing the tilt immediately would keep the markets better informed and better apprised of the direction in which we are most likely to move over time and in that way help better prepare markets for impending changes.

Second, it seems to me that the same principle that guided our decision back in February of 1994 to begin disclosing changes in the funds rate target immediately is applicable here. As I understood it then, the principle was that greater transparency was better than less transparency unless there were clearly negative consequences of greater transparency for our deliberative process. I respect the differing opinion that has been expressed, but I am not convinced that this procedure would necessarily have a negative effect on our deliberations. In fact, I think we can make an argument that it might enhance them under some circumstances. I think Mike Kelley's point about being demagogued is a good one, but on the other side of that, immediate release would reduce the problem of leaks. I think it also would reduce our vulnerability to the politically very sensitive charge of secrecy, or excessive secrecy. To me, that is one of the most serious charges that can be leveled against the central bank in this society. Immediate announcement of the tilt would work to reduce that problem.

Finally, immediate disclosure of the tilt would enable markets and the public generally to interpret incoming data against the background of fuller knowledge of the Fed's current position, even recognizing that our position might change. For example, stronger-than-expected data coming in after disclosure of an upside tilt would be more likely to produce a reaction in markets that would cause long-term interest rates to rise a little and in that way enhance the role that long-term interest rates can play as automatic stabilizers for the economy.

If the Committee accepts that position, as I do, the next issue is how we would implement it. My own preference would be to release the operating paragraph of the directive

after every meeting. We all know the language is not exactly Shakespeare, but it is what we in fact use to explain our decisions after each meeting and to convey those decisions to the Desk. If we are going to continue to do that, I do not see any compelling reason for withholding that information from the public. I also do not see any reason to release anything beyond the operating paragraph--the other language in the directive. I think it would make sense, Mr. Chairman, to continue to rely on your testimonies and speeches to convey the Committee's broader thinking about underlying economic developments that condition our decisions.

CHAIRMAN GREENSPAN. President Parry.

MR. PARRY. I had a question for Don Kohn before making a comment. Don, you referred to occasions when we did not change policy but saw a possibility that we would do so in the next week or so after the meeting depending on the incoming data. How did that affect our wording of the directive? Do you recall?

MR. KOHN. No, I don't recall exactly. I believe the Committee adopted a very strong asymmetrical tilt. I am thinking of December 1991 when the discount rate was cut by a full percentage point and the federal funds rate was cut by 1/2 percentage point less than a week after that December meeting. The members left the meeting with a strong presumption that they wanted to get a package of easing actions together that included both the discount rate and the federal funds rate. I think there was a strong tilt or presumption in that directive, but I don't remember the exact language.

MR. PARRY. I cannot remember either. Let me make a few comments. There have been some interesting points made with regard to reasons why we might not want to announce changes in the tilt. But I believe there are some advantages to making an announcement when we change the tilt as well as when we change the funds rate itself. Announcing decisions

concerning the tilt would in my view provide additional information to the markets that would enable them to function more efficiently. We have talked in the past about conditioning the markets. This is a very effective tool for doing that. Otherwise, we sometimes have to depend on the timing of testimony or speeches that are going to be given by the Chairman. This is a simple way to accomplish the same thing.

I also think these announcements would cut down on leaks. We have had problems with leaks associated with the tilt. Announcing changes in the latter would make the decisions to change it more meaningful because in effect the tilt would become an additional instrument of policy. I see that as a good thing, not a bad thing as Governor Kelley implied. There are times when there does not seem to be agreement or a clear consensus about what a particular decision about the tilt actually means. That is obvious. It seems to me that making a public announcement would require more clarity within the Committee as to what it means, and that could be a positive development.

I also believe that on occasion the availability of an unannounced tilt has provided a way for us to defer making tough decisions about policy actions that should be taken. I do worry a little that a policy of regular announcements could cause us not to use the tilt, but it doesn't have to turn out that way. One approach that I have been thinking about is that the announcement could actually be the entire directive rather than just the operating paragraph, but I haven't thought enough about that. It seems to me that the full directive, while it may not be Shakespeare, provides a little more information that would be of interest to the markets.

CHAIRMAN GREENSPAN. Governor Rivlin.

MS. RIVLIN. I come out where Mike Kelley, Ed Boehne, and the Chairman do. I did not get there very easily. It does seem to me that we have an obligation to be as clear as possible

and to get across to the press and the public that follows monetary policy developments that we are dealing with hard issues, that we are balancing risks, and that no mysterious things go on behind the walls of the temple. I want people to understand what our discussions are about. In that context, I have been rather admiring of what the Brits have done in getting it all out and talking more clearly than it seems to me we sometimes do. So, I started with the notion that maybe the first step should be to announce the tilt in a comprehensible way. If it is not a signal to the markets, to whom is it a signal? Just to us? I came to the conclusion that it is really a signal just to us and that putting it out to the markets would have all of the difficulties that Mike Kelley and Ed Boehne have discussed rather eloquently. I believe it would end up being more confusing than not, in part because the world changes in six weeks and we change our minds. It is not a good predictor of future policy actions largely because we often perceive things differently by the time of the next meeting. I don't think we want to be in a position of having to explain that as well as everything else.

I conclude that we are doing more or less the right thing with two exceptions. I would amend the wording of this directive. I do not have a proposal right now, but it is mysterious in the extreme with the "woulds" and the "mights." Every time I hear it, I have a little difficulty not laughing. [Laughter] I think we could do better than that if we put our minds to it. The other exception is that I don't see any harm in announcing a "no change" decision in just that way. A "no change" decision is a policy decision just like a change, and I don't see why both should not be treated the same way. We could just state what we decided at the end of the meeting in an ordinary way rather than continuing to use the arcane expression that "the Committee met."

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, could I remind us all why we decided to do it that way? If we change the tilt but not the federal funds rate and we say there is

“no change” in policy, we are in some sense lying because there has been a change in policy.

There has been a change in the tilt.

MS. RIVLIN. I agree with that.

VICE CHAIRMAN MCDONOUGH. That is why we invented the notion of saying “the meeting has ended, there is no further announcement.”

MS. RIVLIN. Can’t we say we decided not to move the federal funds rate?

VICE CHAIRMAN MCDONOUGH. Had we said that the first time, I suppose we could continue to say that.

MS. RIVLIN. Can’t we now?

VICE CHAIRMAN MCDONOUGH. The reason that we want to be very clear is precisely not to deceive the public.

MS. RIVLIN. I don’t think what I am proposing would deceive the public.

VICE CHAIRMAN MCDONOUGH. I think our current practice has the benefit that people are used to the way we do it now.

CHAIRMAN GREENSPAN. I agree that it may be arcane, but I think it is unambiguous.

MS. RIVLIN. I think it just adds to the perception of a mysterious Federal Reserve.

CHAIRMAN GREENSPAN. If you can figure out a way to get the directive rewritten, everyone around this table, or a majority at least, would agree that that would be a great accomplishment. We tried several times to improve the paragraph, but without success. The current wording is awful. We all agree it is awful, but the trouble is we all agree it is awful in different ways. [Laughter]

MS. RIVLIN. Let us try again!

VICE CHAIRMAN MCDONOUGH. If you succeed, you could be a candidate for one of three Nobel prizes: literature, economics, or peace. [Laughter]

CHAIRMAN GREENSPAN. President Stern.

MR. STERN. Thank you, Mr. Chairman. Let me start by saying what I am not in favor of. I am not in favor of releasing the tilt, the full directive, or the operating paragraph of the directive. I believe there probably is more noise than value in doing any of the above. Having said that, I do think that increased disclosure and increased communication have served us well on balance over the years. I do not conclude that we have somehow, or at least I'm not entirely convinced that we have somehow, stumbled into optimality here [laughter] and are doing just the right thing. So, I am giving thought to what we can do incrementally, what I would describe as another small step toward providing additional information.

What I am attracted to, and I think this comes largely from the discussion we had a meeting or two ago, would be a statement of our thinking after every meeting. For the most part, this statement would be retrospective rather than prospective, but it would help to explain why we came out where we did not only in the cases where we changed policy but also where we did not change policy. As Don Kohn already has suggested, drafting something like that is probably not going to be easy. On the other hand, those of us at the Reserve Banks all have some experience with that when we communicate the discount rate discussion and decision of our boards to the Board of Governors. So, I don't view that as an entirely impossible task. I do think it would be another small step toward improving communication. My judgment is that it would be received well in the marketplace and elsewhere and would help people understand what we are thinking about, what we are concerned about, and some of the difficult tradeoffs that Governor Rivlin referred to.

CHAIRMAN GREENSPAN. I want to comment on that briefly. I think it is far easier to write a statement when we are taking action because we have a majority of the members who favor the policy move, presumably largely for the same reasons. It is very difficult to agree on a statement when we are not taking action. In other words, to try to capture in a statement the reasons why people are not doing something is in my view far more difficult than stating why certain things were done. I may be wrong on that, but my experience in trying to write communiques over the years is that there is a real, excuse the expression, "asymmetry" in how one approaches this. That is a practical consideration.

MR. STERN. You could well be right. I suppose we could, if we wanted to, try it out internally before deciding to go public with it to see after a meeting or two whether we could craft a statement that people agreed with. Presumably, you would want to have something in the back of your mind before the meeting began, so you could proceed from there. That is a way of approaching it and seeing how difficult it might be.

CHAIRMAN GREENSPAN. President Poole.

MR. POOLE. When I try to think through this issue, I start with three elements. We have policy decisions; we have a policy rationale that we try to convey to the markets; and we have the internal policy debate. I think it is very important that the internal policy debate be kept confidential so that we can have a complete and free exchange.

In terms of the policy decisions, I believe they should be disclosed promptly to the market in part to avoid leaks and in part to provide the clearest possible direction to market participants and to avoid the problem of different market participants with different positions getting information at different times. In the past, before the funds rate decision was announced

after every meeting, some market participants, the experts, got the information first, and I do not think that is a wise way to operate.

In terms of the rationale, a fully articulated rationale is impossible. We are never going to agree on exactly why we do things. We all come out in somewhat different directions. The rationale that is incorporated in the directive is very, very general. It is mostly boilerplate. I don't understand the difficulty of releasing the full directive because it is almost all boilerplate, and it is a very minimal common ground that we can agree on. So, I would be in favor of releasing the directive. I cannot imagine that release would cause us any grief.

The issue then comes down to the question of whether the tilt is a policy decision or not. If it is not a policy decision, it seems to me that it does not belong in the directive at all because the directive is a statement of what we are telling the Open Market Desk to do and the underlying rationale for that. I think the tilt could be used constructively to convey our sense of the balance of risks, the likely future direction of our policy decisions. I believe that is the point that Bob Parry was making. Of course, that is where I came in at my very first meeting back in March because we were facing this issue. We were talking about whether we should be providing some signal to the markets about our future policy direction, and we thought moving to asymmetry might be useful in that regard. Maybe it is like a half step on the funds rate. We might have different interpretations of exactly what it is, but I think it would be useful to keep it in the directive and treat it as part of our policy decision, providing a sense to the market of our future direction.

CHAIRMAN GREENSPAN. Governor Gramlich.

MR. GRAMLICH. I have not been struggling with this issue very long as everybody knows, but I am tentatively in favor of releasing the operational paragraph, or something like it,

after every meeting essentially for the reason that Bill Poole just gave. At the same time, I understand the arguments that Ed Boehne, Mike Kelley, and the Chairman have made. I do not think the system is fundamentally broken, so I don't care passionately about this. I think Governor Rivlin made two very good suggestions that I would endorse. By the way, if a group is established to try to draft this paragraph, I do not want to be on it. [Laughter] I'm used to university-professor speak and not central-banker speak. My participation would be an outrage in terms of comparative advantage, [laughter] but I do think it could be written better.

In terms of the suggestion that Gary Stern made about providing some information after each meeting, I thought about that, too. But it strikes me that what we would be doing then is subjecting the Chairman to a press conference every afternoon after our meetings. I do not want to do that to him. So, I would not be for that suggestion.

Let me also raise one other issue. An intermediate step we might consider taking would be to release the minutes slightly before instead of slightly after the following meeting. I asked about this at the dinner last night. The Bank of England, as you know, is considering that possibility. The Chairman indicated that one reason we could not do that was that there is some contingent language in the minutes. There have been so many fun things occurring this morning that I haven't had a chance to read the minutes carefully to figure out how much, but I believe there is not that much. I think the minutes could be moderately rewritten. This is difficult to do in periods when we are tightening. When we are easing, we are heroes and nobody cares much. When we are tightening, it is hard to do, but in that circumstance I see a lot of advantage to giving a warning before we do the deed. So, if we don't go all the way to releasing the operational paragraph immediately after each meeting, a possible intermediate step is to release the whole minutes a little before the next meeting.

CHAIRMAN GREENSPAN. Governor Meyer.

MR. MEYER. Thank you, Mr. Chairman. I think we already have had some very thoughtful discussion of this topic. I will try to add incrementally to that if I can. I believe we have an opportunity to take another small step toward greater transparency. I believe such a move would be constructive because the additional information would help participants in the financial markets to better understand the FOMC's assessment of risks. This would allow the FOMC to better prepare the public for changes in policy that might lie ahead.

Let me comment on three issues. First, should we change the announcement policy? Second, should we add the tilt of policy to the announcement? Third, should we immediately release the full directive?

I believe that announcements should be used on occasion even when there is no change in policy. First, if there were significant uncertainty about whether or not policy would change, we might explain why we chose not to change policy. Second, if we were expected to change policy and did not, again we might explain why. Third, if we did not change policy but changed the tilt in the directive, then we should explain why. On the other hand, we should not be in a position where we feel compelled to make an announcement in the case where we were not expected to change policy and did not.

Whether policy is symmetric or asymmetric is a very simple way of conveying important information to the market and to the public more generally about how the FOMC weighs the risks going forward. I believe we should announce our assessment of those risks after each meeting. Would we make less use of an asymmetric bias? I think that if we agree to be honest and use this procedural change to enhance public transparency, we will not use it any less.

I think the memos we received on this issue contained two very interesting arguments against immediately releasing the entire directive. First, it was said that the opening paragraph is written before the meeting and is basically vacuous. Second, it was noted that the language of the directive neither says what it means nor means what it says. Thinking about this even for a few seconds suggests an obvious solution. First, we might eliminate the first paragraph and perhaps replace it with our announcement. Second, we could improve the language so it says what we mean and we can honestly say we mean what we say. My first preference is to publish a new and improved directive. My second best is to announce our tilt decision following each meeting. In addition, depending on the Committee's decision, I would like to provide an explanation when there is a change in the funds rate, a change in the tilt, or a no-change directive under the circumstances that I detailed above.

CHAIRMAN GREENSPAN. Governor Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. After listening to a number of very good arguments from people who have much longer tenures than I do in this area, I will weigh in just a little. I believe that we have two decisions to make. The first is whether we should make any announcements after meetings when there is no change in policy. I think the answer to that is "no" because I don't think such a decision represents a consensus in the same sense as a decision to change policy. Bill Poole and others have suggested that there are many and differing reasons why individual members of the Committee may decide not to make a change in policy. It is very difficult, as you point out, Mr. Chairman, to write a clear summary statement about such a decision. We spend a fair amount of time discussing factors relating to our policy preferences before coming to a consensus on not changing policy, but we would then be hard

pressed to state clearly and concisely the reasons for that consensus. That exercise would not be productive.

Secondly, with respect to announcing the tilt, I actually see that as a close call, though I have a slight preference in favor of making an announcement. The reason is that I believe the tilt does reflect a change in policy and a consensus is needed to make that change. So, I think it is useful to inform the markets of that for a variety of reasons that others have alluded to. One is that we often want to condition market expectations in one way or another. That may be done through statements or speeches that you make, Mr. Chairman, but in some sense releasing our decision on the tilt after each meeting is an easier way to accomplish that result. Secondly, I think we can indeed educate the markets on what this means. Mike Kelley pointed to a table that some would interpret as indicating that we are quite undecided when we adopt a tilt. One of the things we might do if we were to undertake to make this announcement would be to educate the market as to exactly what it means. We often find people in the press who ask whether we think the risks are in one direction or the other. The tilt is a way to disclose what the Committee thinks the risks are, and that might be very helpful, though we could also then step back from that as we get new information. I think that indicates that we are responsible public servants as opposed to irresponsible public servants. I am not so concerned about having people belittle us or ask us why we have changed our minds because we always have new information to assess after our decision.

Finally, as I understand the origin of this, some of the language of the tilt as I read it suggests that it is aimed at intermeeting actions. It seems that we have moved away from intermeeting adjustments in the target for the funds rate, and therefore perhaps the tilt has taken on a slightly different meaning that can be disclosed more clearly and more readily to the public.

For those reasons, while it is a close call, I would be in favor of disclosing the tilt but not making statements when we have made no change in policy.

CHAIRMAN GREENSPAN. President Guynn.

MR. GUYNN. Thank you, Mr. Chairman. I have been the beneficiary for many years of the wisdom and experience of Ed Boehne and Mike Kelley, and it is with some uneasiness that I come out on the other side on this issue. I am most comfortable with the kinds of comments that Al Broaddus and Bob Parry made for the following reasons. First of all, I would agree with Alice Rivlin that at the minimum we certainly should be able to find a way to redefine and recast the language relating to the tilt. We did it in the first sentence of the operational paragraph relating to the federal funds rate, and I have to believe that somebody can in fact win that Nobel prize. We should try again.

Second, I guess the unspoken assumption is that there is no turning back once we liberalize our disclosure policy. We will be stuck with whatever additional disclosures we go to. I just mention that because I do not think anybody has focused on this explicitly.

I also start with an underlying bias that more transparency and more information are better than less. I would argue that serious observers in financial markets and elsewhere of our policymaking are sophisticated enough to understand the nuances when we announce the tilt and they also are able to interpret changes in the economy between the announcements just as we have to.

The other argument that I would underscore without repeating all of it is that announcing the tilt would avoid the misinformation that spread just a couple of meetings ago. I believe that is going to happen again. It was most unfortunate at the time. We all struggle with how to deal with misinformation, and I think that avoiding it is worth something. I think David

Clementi's comments last night suggest that the Bank of England's early experience with delayed information has given them the same type of problem. So, announcing our decisions does in my view avoid the risk of what I call "slips," not "leaks." I would prefer to put a more charitable spin on that and assume that we simply from time to time may say something we wished we had not. That cannot happen if we already have made the announcement.

I also agree with the comment that any small step we can take that reduces the sense of secrecy that surrounds our activities is in our long-term interest as an organization. We simply need to move a little further in that direction. I don't believe we can make these announcements on an ad hoc basis at one meeting and not at another. I think it has to be a routine that we use for every meeting. The cleanest and simplest way would in fact be to release the operational paragraph of the directive. It takes care of announcing the tilt and it also accommodates Al Broadus's proposal to announce our fed funds target at every meeting, not just when we have changed it. This is not a "slam dunk" issue, but I have a modest preference to come out on that side of it. Thank you, Mr. Chairman.

CHAIRMAN GREENSPAN. President Jordan.

MR. JORDAN. Thank you. I think that if someone did an empirical study of central bank behavior, at least for the last couple of decades of fiat monies unanchored by a gold standard or something else, they would conclude that there is an asymmetric bias toward easier money. The reason, of course, relates to the existence of an asymmetrical political bias toward easy money, which already has been alluded to. Because of that, we have seen a search for a way to neutralize that political bias, and it takes various forms such as a provision in the Maastricht treaty that gives central banks a mandate for price stability, currency boards that anchor their policies to a strong hard currency, and other ways that try to institutionalize an

asymmetric bias toward tightening or at least to neutralize the asymmetric bias toward ease. In that sense, I would never favor an asymmetric bias toward ease, announced or unannounced, because it is redundant. [Laughter]

I also question the value of having a stated bias toward tightening, whether released immediately or later, and any signaling that comes from that. Governor Gramlich stated that he feels there is some value in signaling or communicating in advance what we are going to do. I look at what the Bank of England did in May, and I do not see the downside of their having taken an action that caught a lot of people by surprise. Why is that necessarily a bad thing? In fact, I worry about the opposite. Before we started in early 1994 to announce changes in the funds rate or to release a statement at the end of our meetings, the Fed watchers had to interpret Desk actions, and success at that created a rent or a value to those people. We took that away from them and I was happy we did. But now we may create a similar opportunity for those who can interpret our statements or their tone and feel or something like that. I think that there is a hazard in that approach over time.

I saw a cartoon a few months ago in a magazine that a lot of you probably do not read, so I will describe the cartoon. It showed a man sitting in front of a television set. The television set says, "This is just a test; if it had been a real emergency, Alan Greenspan would have said so." [Laughter] I have seen and I suspect everyone has seen newsletters to customers of brokerage houses that claim to know the Fed is not going to tighten policy because, if it were, Alan Greenspan would have signaled in advance. In the absence of a signal, you are safe in assuming that nothing is going to happen. Over time, there is a risk in allowing that view to dominate behavior. Ultimately, of course, it is our actions not our words that matter. I just am not convinced that even having an on-again, off-again asymmetric bias is desirable. It does tend

to reinforce an unfortunate conviction that contemporaneous data have a heavy weight in policy rather than a long-term strategic focus.

CHAIRMAN GREENSPAN. Vice Chairman.

VICE CHAIRMAN MCDONOUGH. Mr. Chairman, I wind up agreeing with the very fine explanations by President Boehne and Governor Kelley that have been supported by a number of people, but let me say why. First of all, a bit of history: The reason that we decided in February 1994 to announce changes in the funds rate was partly transparency and partly ethics. The Committee's previous policy of making a decision and then having the Desk at the New York Bank in effect apprise the cognoscenti through its operations in the market seemed, in my view as someone who had been in the business 22 years, to verge on the unethical. The reason is that it clearly had the effect of letting the insiders know before the unwashed knew. So, one of the main reasons we changed that practice in my view was because it was the right thing to do, the moral thing to do. At the time, we also decided that if there was a change in the tilt, it would not be announced, and that is how we got into the announcement mode that I mentioned earlier.

It seems to me that we can go one of two ways at the present time. We can either stay where we are, which is what I think we should do, or we can move to announcing as soon as possible what the policy decision has been. I think a number of people who are of the latter persuasion have concluded that we would probably issue a cleaned-up operational paragraph that is understandable to the average person. I see that as a big problem because such a paragraph would inevitably state very baldly what is in fact a very sophisticated message. Monetary policy is not an "on and off" switch nor is it a partially on, partially off switch, which is the tilt. It is

rather something that one is trying to do in order to have a better economy at the end of the day for the good of the American people and people around the world.

I think our present policy, which is to make an announcement when there is a change in the federal funds rate, is very clear and very specific. It is easily understandable. If we need some additional explanation of what we are doing, ideally we have the Humphrey-Hawkins testimony or, if not, the Chairman can either create or take advantage of a speech opportunity. We have the great advantage of having an unusually capable spokesman, who is able to provide all those measures of subtlety and nuances that I believe are a very important part of the policy message. We simply cannot do that in an announcement that we have to release on the day of the meeting. If we did, we would have exactly the problem that Ed Boehne described so well. We would spend the whole meeting shadowboxing about what we were going say at the end of the meeting. That would take any spontaneity out of the meeting, which is already unspontaneous enough because of the knowledge that the whole transcript is eventually going to be released. So, people come into the meeting with prepared remarks. It is always hard for me to believe that if we have prepared remarks, we will spend a lot of time listening to the other people who have been trying to share some information with us.

I think that releasing anything on the day of the meeting would make the meeting a completely unspontaneous set piece, and as a result we would have poor monetary policy. It is wonderful to have transparent monetary policy. If we could have the best possible monetary policy and the most transparent monetary policy, I think that would be the ideal. I don't think we can have both. In my view we are better off having the best possible monetary policy explained to the American people in a way that in fact works quite well, which is what we have now. So, I am very much in favor of retaining our present formula.

CHAIRMAN GREENSPAN. President McTeer.

MR. MCTEER. Coming into the meeting today, my second choice was to announce the bias. I thought that would be my ultimate choice because I didn't think my first choice would get anywhere. My first choice would be to stop voting formally on the bias. We do talk about it; we have a rough idea of where each of us stands; and we know what the consensus seems to be. Accordingly, I do not see a lot of advantage to having a formal vote and then having the dilemma of whether to release that vote or not. However, I found President Boehne's and Governor Kelley's initial remarks very persuasive, and in particular they convinced me that we should not announce the tilt. They partially convinced me that there is a benefit to having a formal bias, but I suspect that we could retain the benefit of the bias and still not formally vote on it. That would eliminate the dilemma about releasing it shortly after the meeting. Where I come down is to make no change but to consider the advantages of not having a formal vote on the bias.

CHAIRMAN GREENSPAN. President Minehan.

MS. MINEHAN. We started this discussion at the March meeting after changing the tilt in the directive and arriving at a consensus around the table that the Chairman should somehow convey that decision to the public. Subsequently, there was a "slip" or a "leak" of information concerning the Committee's new policy direction that came out in the press. I am inclined to the view that situations involving leaks of information are not dissimilar to the kinds of situations that brought us to fuller disclosure in the first place. So, I would buy into Gary Stern's perception that we have not yet reached nirvana when it comes to our disclosure policy.

I have some concern about asking either the Chairman or anybody else to go out and convey information about the direction that Committee policy is taking in the absence of a

reasonably forthright statement of the Committee's decision. In this regard, I think a "no change" decision can be as much a policy decision as a change in policy or a change in the direction of the tilt. So, if we feel compelled to prepare the markets, I think it is more consistent with the notion that the decision is a Committee decision to have the Committee make a statement about where it is than to rely even on the Chairman and especially on the rest of us as individuals. If we go out as individuals and present our own views, we risk having them interpreted in a variety of ways. We obviously cannot change how the journalistic community views us and how it tries to drive wedges between us, at least in the press. But I think it is easier to have a common front if we have a common statement. What worries me is that we seem to have some sympathy for preparing the markets, but we don't seem to want to do that as a Committee. We seem to want to do that as individuals, and I think that has some risk.

The risk of demagoguery is always there. We get demagogued whether we make announcements or not. I think our ability to withstand demagoguery is what makes us credible. It has made us credible in the past and it will make us credible in the future, and I do not think whether we disclose or not disclose will change things a whole lot in that regard. I think there is an advantage to demystifying what the Committee says, and I think there may be simple ways of doing that. I know when we talked about clarifying the directive I was on the opposite side of this argument. My thoughts have changed over time. There may in fact be ways after this discussion or maybe other discussions that follow of making the directive clearer, of releasing the minutes or the operational paragraph earlier.

I come down on the side of feeling more comfortable with the idea of disclosing our thoughts in a simple way after every meeting. I feel that the advantages of doing that outweigh the disadvantages. But I must say that a lot of the comments and concerns expressed by people

who have been on this Committee a lot longer than I weigh on me heavily as well. I don't think I would be comfortable about making a decision on this issue at this meeting, certainly a decision to change our disclosure policy, even though I would agree with a change if we went in that direction ultimately.

CHAIRMAN GREENSPAN. President Hoenig.

MR. HOENIG. Mr. Chairman, as I looked at this issue and went back and read some of its history, it seemed clear to me that the whole idea of the tilt as it was designed in an earlier period was to allow compromise and build consensus. It is an internal mechanism for decisionmaking. I think the way we announce actions now is the correct way, and releasing the tilt will not add to transparency because the directive language relating to the tilt is incomprehensible. If transparency is our goal and we want to have the context of our thinking in our release of information to the public, then I believe Governor Gramlich has a very good point. We should then focus on putting the minutes together because they incorporate the full context of our decision, and we could release them earlier. But I think trying to come up with a statement at the end of this meeting to be released to the public at 2:15 p.m. and to frame it in the context of the discussion at this meeting is an almost impossible task for anyone. So, I would focus on getting the minutes in good shape as soon as possible if we want to release them early, and that would be the way to enhance transparency. I do not think immediate release of the tilt as currently drafted, or probably could be drafted, will do anything but confuse.

CHAIRMAN GREENSPAN. President Moskow.

MR. MOSKOW. Mr. Chairman, I actually come out very close to where Tom Hoenig did but reach that position in a slightly different way. This has been a very helpful discussion for me, including the opportunity to learn the history. I have been on the Committee slightly less

than four years, and I now have a much better understanding of just how complicated this issue really is. I view it as a theory versus practice issue. In theory, we all favor more disclosure and more information to help make the markets operate more efficiently and to help us accomplish our objectives. But in practice, we have a legacy. It is the tilt, which is an arcane tool as I view it. I know that in some of my earlier meetings, the tilt was viewed as a directive to you, Mr. Chairman, as to the authority you would have to take some policy action between meetings. People on the Committee would say that they were giving you this authority, but they wanted you to consult them before you actually used it. I guess that was probably part of the later evolution of this arcane tool. In earlier times, I believe the Chairman did not consult the Committee as to what he would do between meetings. It is a tool that we are not using for the purpose it was originally created.

CHAIRMAN GREENSPAN. It is a business cycle problem. I think it becomes quite usable when events are moving very fast and in an unanticipated way. For example, there were a number of occasions during the recession when policy had to move fast and very rarely at the time of Committee meetings. So, the Chairman's role in this regard is really a function of the relative stability of the business cycle. As it has turned out in the current period, because of the stability that is built into the economy, we effectively have been ahead of the curve, and therefore making decisions only at meetings became very sensible. Hence, the directive to the Chairman became irrelevant in effect. It is conceivable that at some later time--two years from now, ten years from now--the tilt is going to come back as something that we will need to assure the flexibility of the decisionmaking process. So, I am almost certain that the change will not be permanent.

MR. MOSKOW. That is, of course, my point. To try to explain this to the public and to use the tilt as a method of educating the public seems fruitless to me.

CHAIRMAN GREENSPAN. I agree.

MR. MOSKOW. It will confuse the public more if we try to use this tool to educate them about monetary policy. It is the wrong tool to use. I certainly favor educating the public about monetary policy, but let's not try to do it with the tilt. I would like to find other ways to do this. I don't have any easy suggestions, given the difficulty that people have pointed out here. I certainly support Alice Rivlin's suggestion, though, of writing the operational paragraph in plain English. I, too, am offended by it every time we go through it. I would support giving her three Nobel prizes on this, but I do not think fixing it is quite that difficult.

CHAIRMAN GREENSPAN. We actually did improve the directive once before.

VICE CHAIRMAN MCDONOUGH. This directive is clear by comparison!

[Laughter]

MR. MOSKOW. But I think we can do better.

CHAIRMAN GREENSPAN. Let me suggest the following. Proposition one is that if we make a change it is irreversible. Let's be certain that to the extent we make a change, we are all comfortable that we are not going to say three meetings later that it was a mistake and we should go back. We will not be able to go back. I think this has been a very useful discussion in all respects. I would put it to Don Kohn to do the following if everyone is in agreement--

[Laughter]

MR. KOHN. If I have the consensus!

CHAIRMAN GREENSPAN. There is a lot of sentiment for releasing the directive. It is not a majority. Incidentally, in a decision like this, it is not the Committee per se but the 19, or

now 18, who should make the decision because we are all involved. I think it would be a mistake to base a decision strictly on the views of those who happen to be on the Committee at a particular time. I think we all should be equally represented in this type of decision. There is some sentiment, a considerable amount of sentiment, for releasing the directive. There may even be more if we make the directive coherent.

MS. RIVLIN. There might be less!

CHAIRMAN GREENSPAN. There is the crucial question about the value in the deliberative process of various gradations of agreement, which is what the tilt has enabled us to do. I think we should come back to this issue after (1) seeing whether we can find a way to clarify the wording of the directive and (2) examining the interesting question that some of you have raised about the earlier release of the minutes. That would require removing all the contingency material, but that may not be a particular problem.

After that, I would suggest that instead putting a variety of alternatives on the table we limit the choices. In other words the choices might include (1) maintaining the status quo, doing nothing, or (2) clarifying the wording of the directive and releasing it at some point. That would automatically get the tilt into the public domain as quickly as any announcement. In principle, I think the proposal that Cathy Minehan made is where we would be if we could get there, namely, to have a statement after each meeting of what the Committee meant. I just think that approach is not feasible. I do not think it could be done, and I would suggest that what would come out if we succeeded in doing it would be some boilerplate similar to what the G-7 comes up with, which is awful. If there were a way to do it, I think it would be the most useful thing we could do. The directive is the next vehicle, but the directive carries with it the problem, as stated in the very eloquent remarks of both Ed Boehne and Mike Kelley, of interpreting the meaning being

conveyed by the sentence on the tilt. I also would like to say that I think the issue that Bill McDonough raises with respect to the art form of constructing monetary policy is relatively important. We are engaged in a very difficult activity. We can make it more difficult for ourselves if we lock in certain issues without a full understanding of the implications.

I hate to say this, but we will have to come back to this issue again. I do think that in doing so we will be able to narrow the alternatives quite significantly. This has been a very productive go-around. It has clarified a number of issues for me as well, and I have been around for quite a while.

We moved the luncheon up 30 minutes because we thought we would be available earlier. That turned out only to be half true. We are adjourned.

END OF MEETING

APPENDIX 1

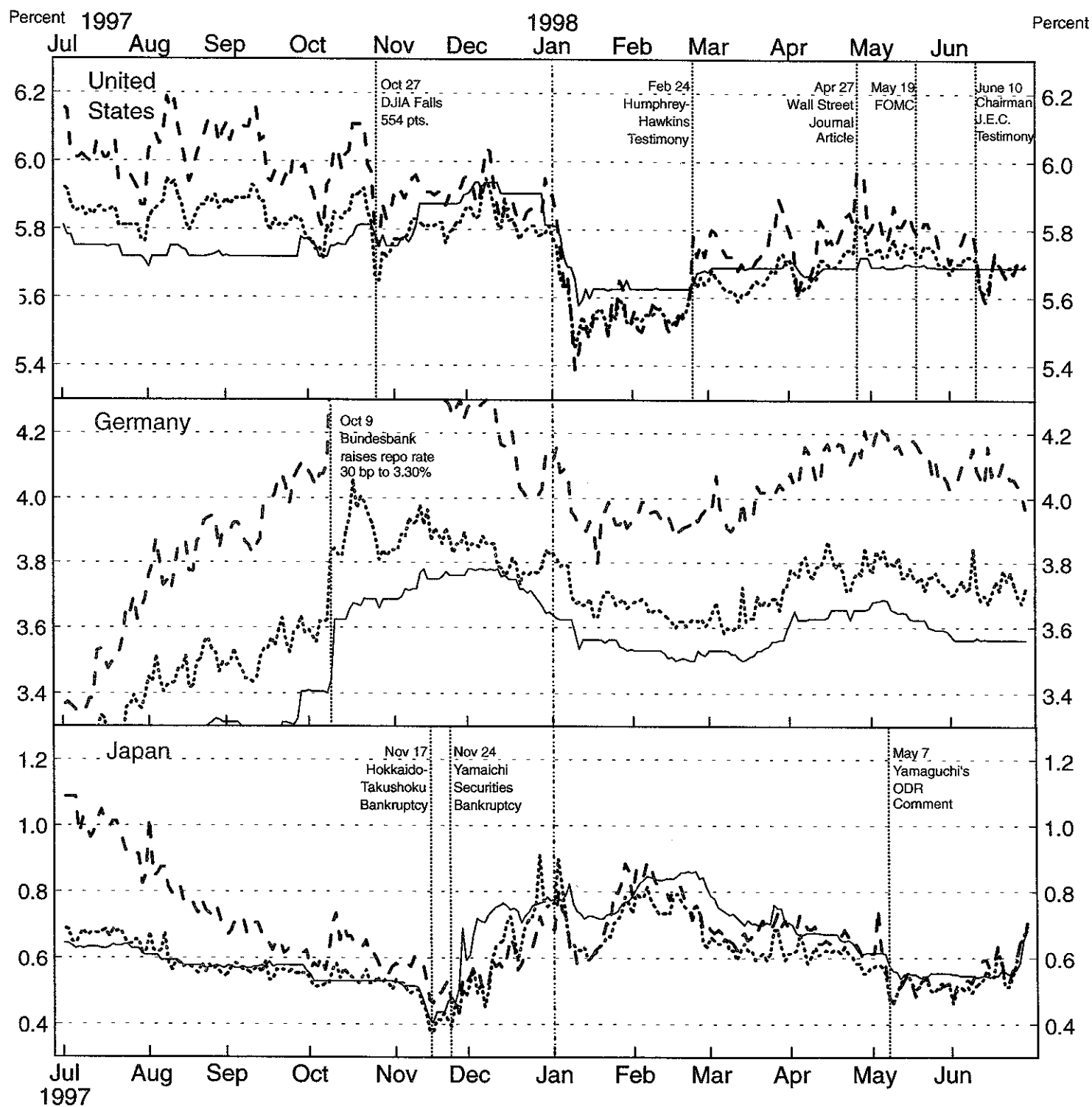
Charts used by Mr. Fisher in his presentation

3-Month Deposit Rates

July 1, 1997 - June 29, 1998

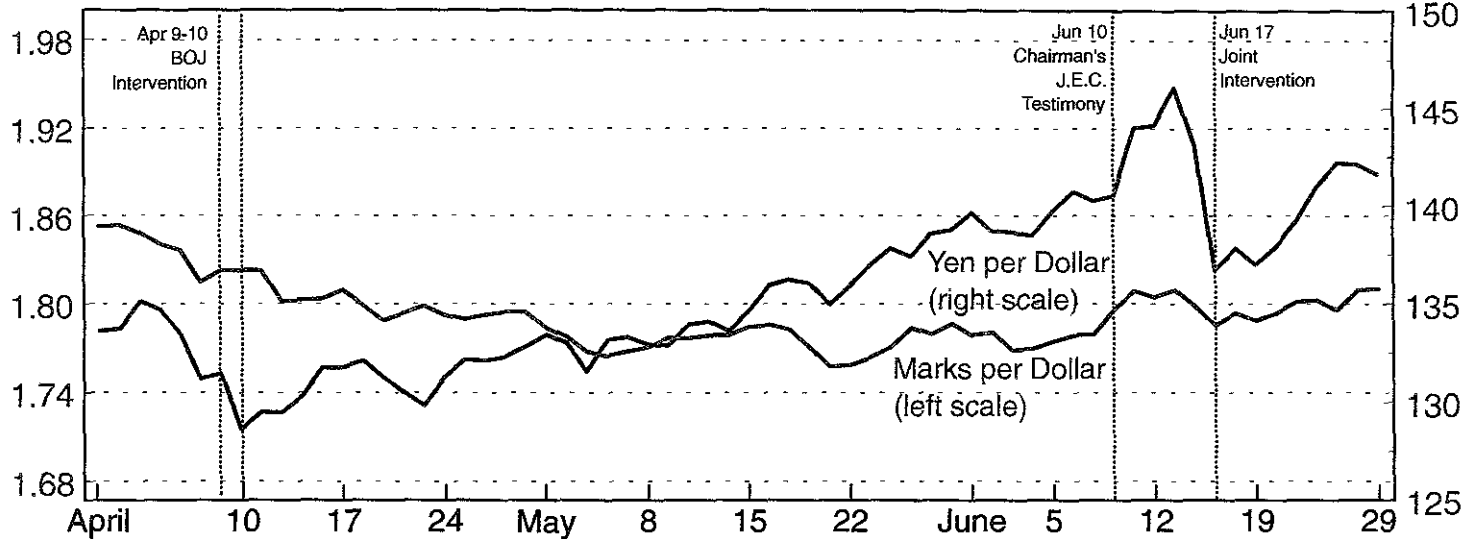
Current Euro-Deposit Rate and Rates Implied by Traded Forward Rate Agreements

	LIBOR Fixing	3-Mo. Forward	9-Mo. Forward
United States	————	-----	- - - -
Germany	————	-----	- - - -
Japan	————	-----	- - - -



April 1, 1998 - June 29, 1998

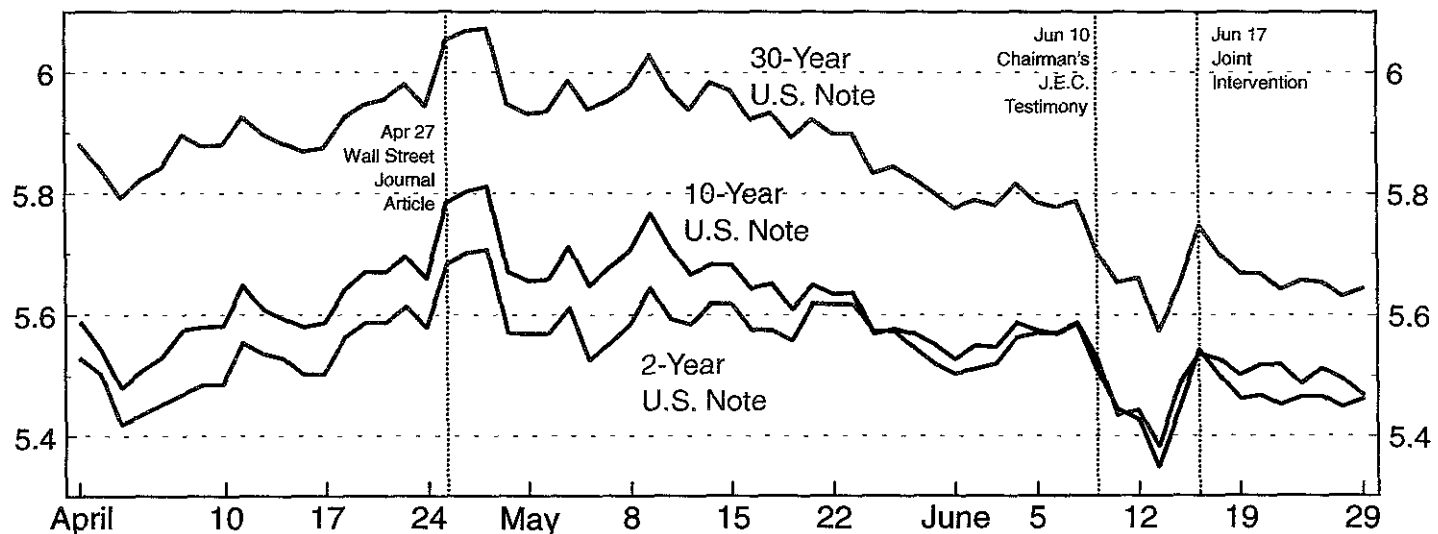
Dollar-Mark and Dollar-Yen

Marks per
DollarYen per
Dollar

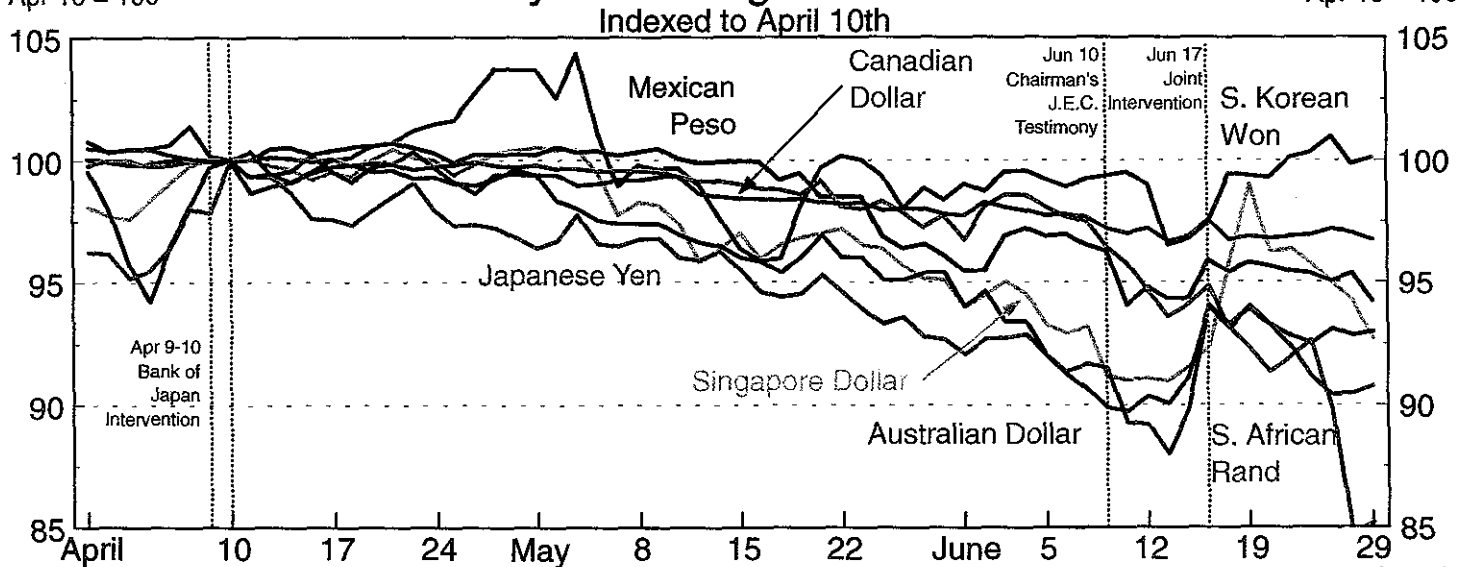
Percent

Constant Maturity U.S. Treasury Yields

Percent

Index
Apr 10 = 100

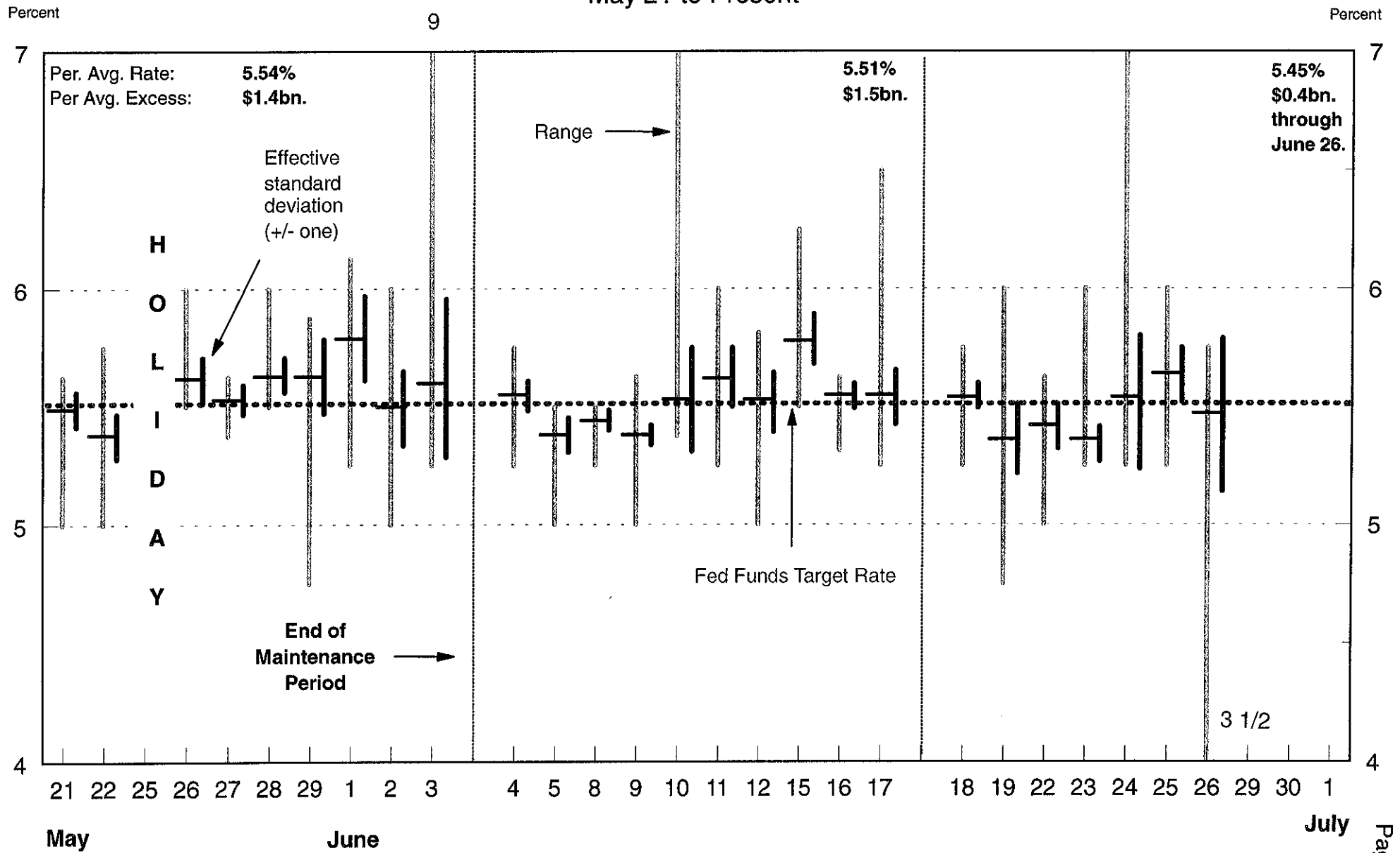
Currency Values against U.S. Dollar

Index
Apr 10 = 100

DAILY FEDERAL FUNDS

TRADING RANGE, EFFECTIVE AVERAGE & ONE STANDARD DEVIATION

May 21 to Present



APPENDIX 2

Charts used by Messrs. Prell, Hooper, and Stockton
in their presentation

STRICTLY CONFIDENTIAL (FR) CLASS II-FOMC

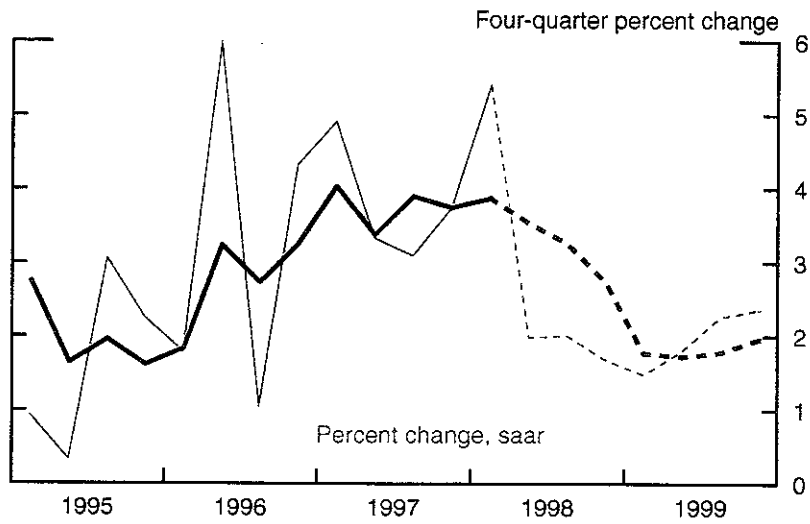
Material for

*Staff Presentation on the
Economic Outlook*

June 30, 1998

Forecast Summary

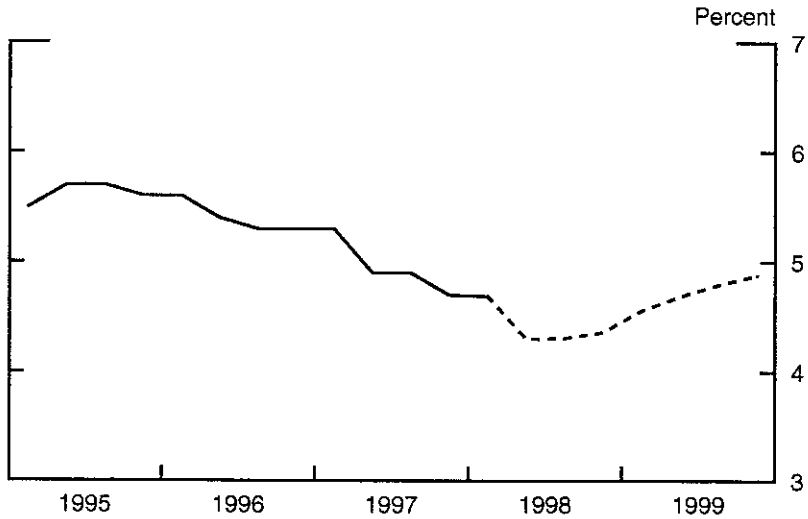
Real GDP



Q4/Q4 percent change

1995	1.6
1996	3.2
1997	3.7
1998	2.7
1999	2.0

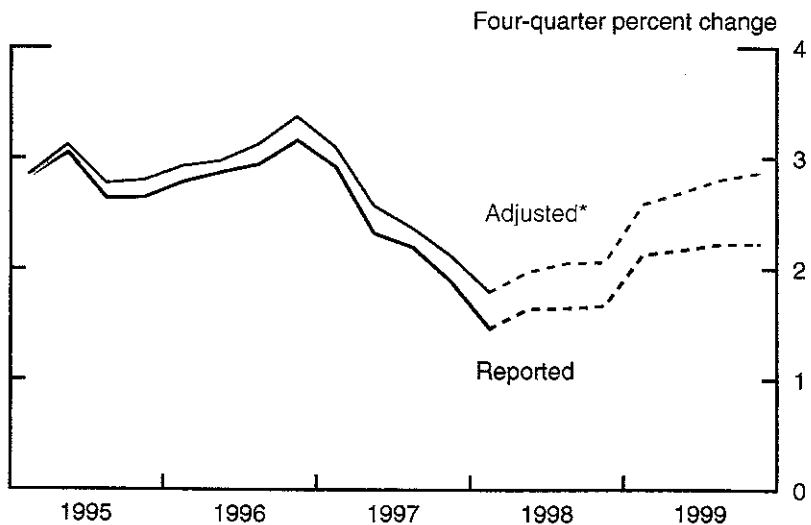
Unemployment Rate



Q4 average

1995	5.6
1996	5.3
1997	4.7
1998	4.4
1999	4.9

Consumer Price Inflation



Q4/Q4 percent change

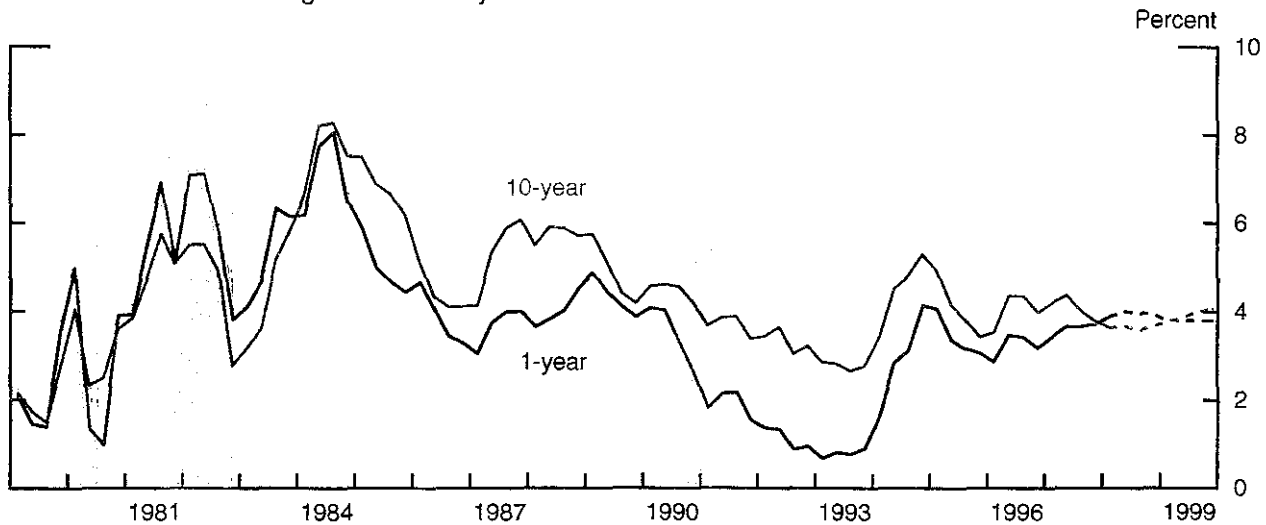
	Reported	Adjusted
1995	2.6	2.7
1996	3.2	3.4
1997	1.9	2.1
1998	1.7	2.1
1999	2.2	2.8

*Adjusted for effects of technical changes implemented by BLS since 1994.

Chart 2

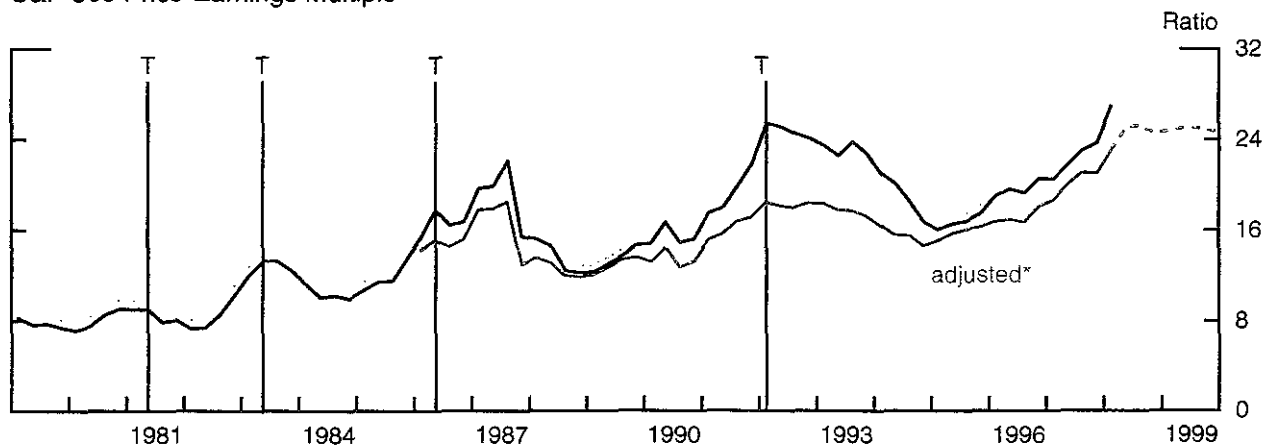
Domestic Financial Conditions

Real Short-term and Long-term Treasury Yields*



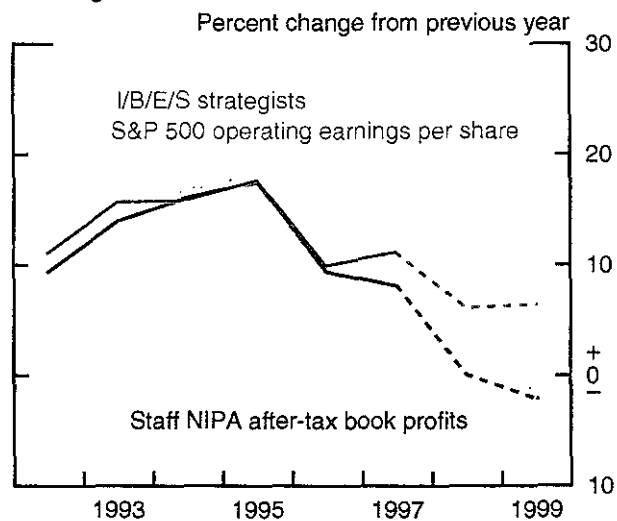
* Nominal 1-year and 10-year rates minus lagged one and three year GDP inflation rates, respectively.

S&P 500 Price-Earnings Multiple

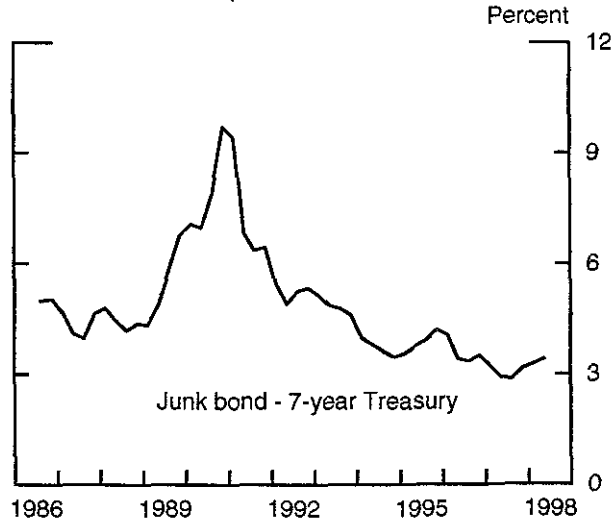


* Based on Goldman Sachs' estimates of S&P 500 earnings excluding special restructuring charges.
Note: T denotes trough of earnings cycle.

Earnings Outlook



Junk Bond Yield Spread



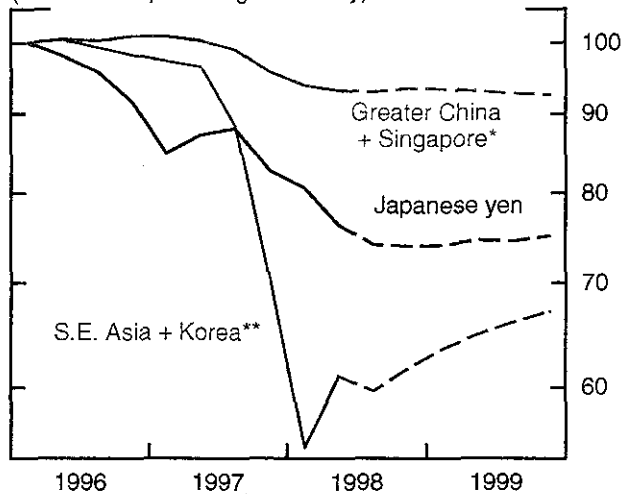
International Financial Markets

(Ratio scales)

Real Exchange Rates

(U.S. dollars per foreign currency)

96Q1 = 100

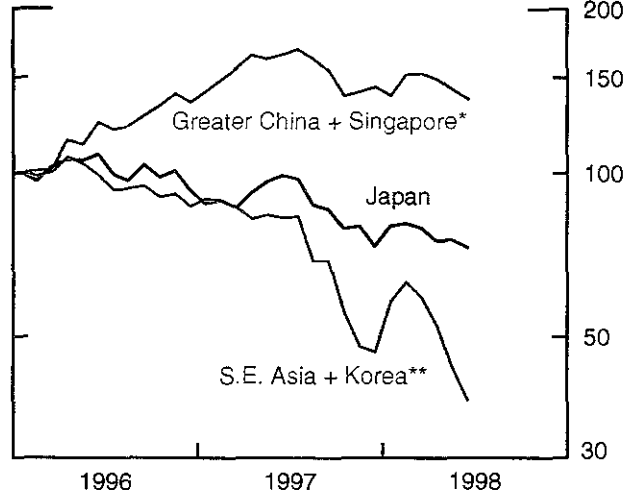


* Trade weighted average of China, Hong Kong, Taiwan, Singapore.

** Trade weighted average of Korea, Indonesia, Malaysia, Philippines, Thailand.

Stock Market Indexes

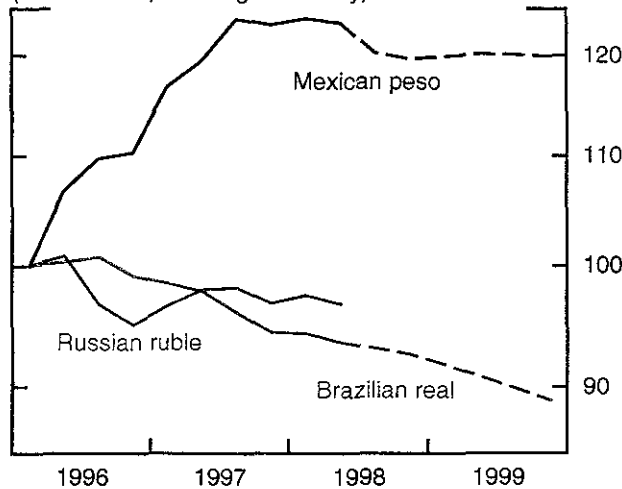
Jan. 1996 = 100



Real Exchange Rates

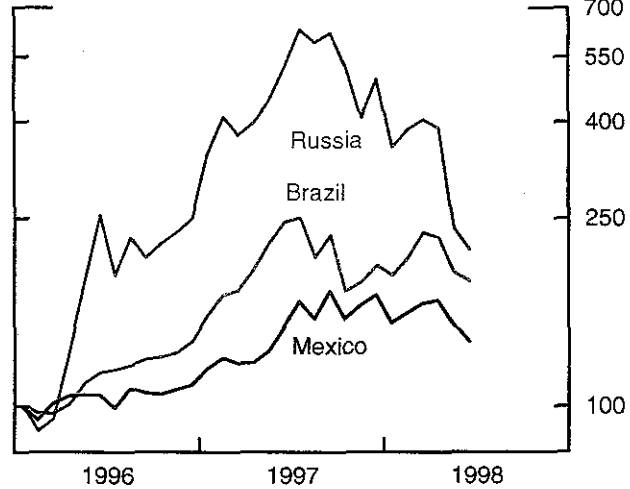
(U.S. dollars per foreign currency)

96Q1 = 100



Stock Market Indexes

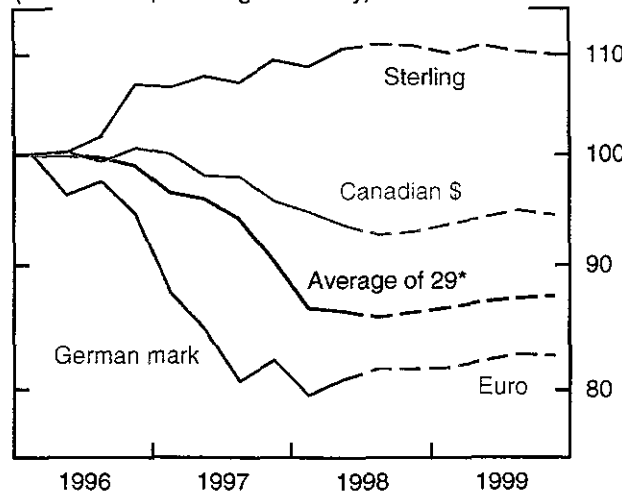
Jan. 1996 = 100



Real Exchange Rates

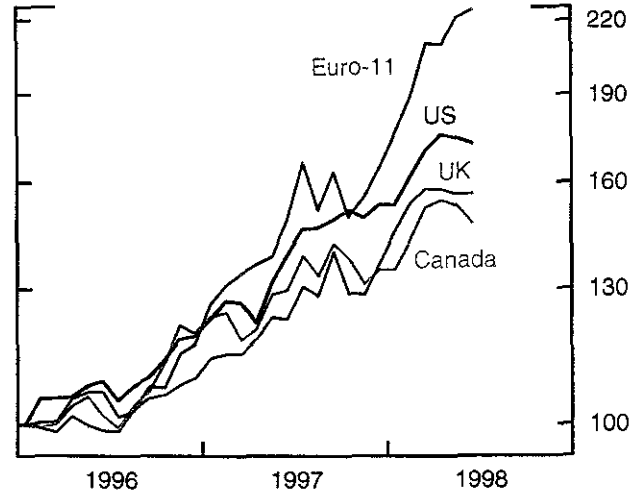
(U.S. dollars per foreign currency)

96Q1 = 100



Stock Market Indexes

Jan. 1996 = 100



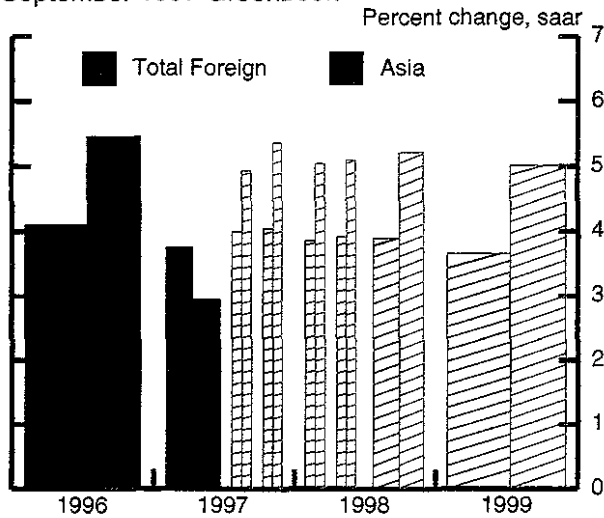
* Trade weighted average of 29-currencies.

Note: Exchange rate data are quarterly; stock market data are monthly.

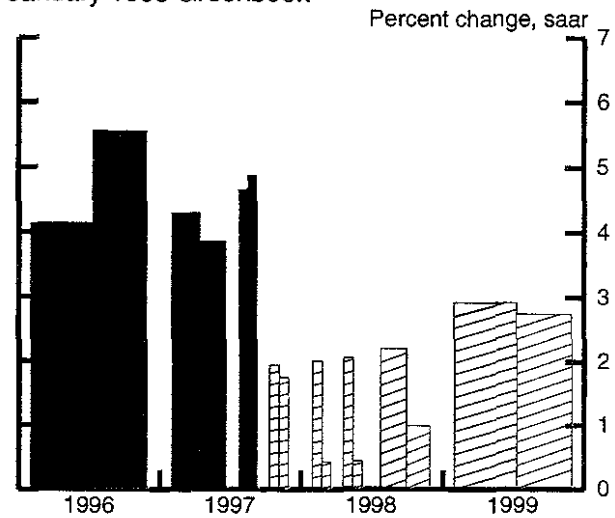
Chart 4

Foreign GDP*

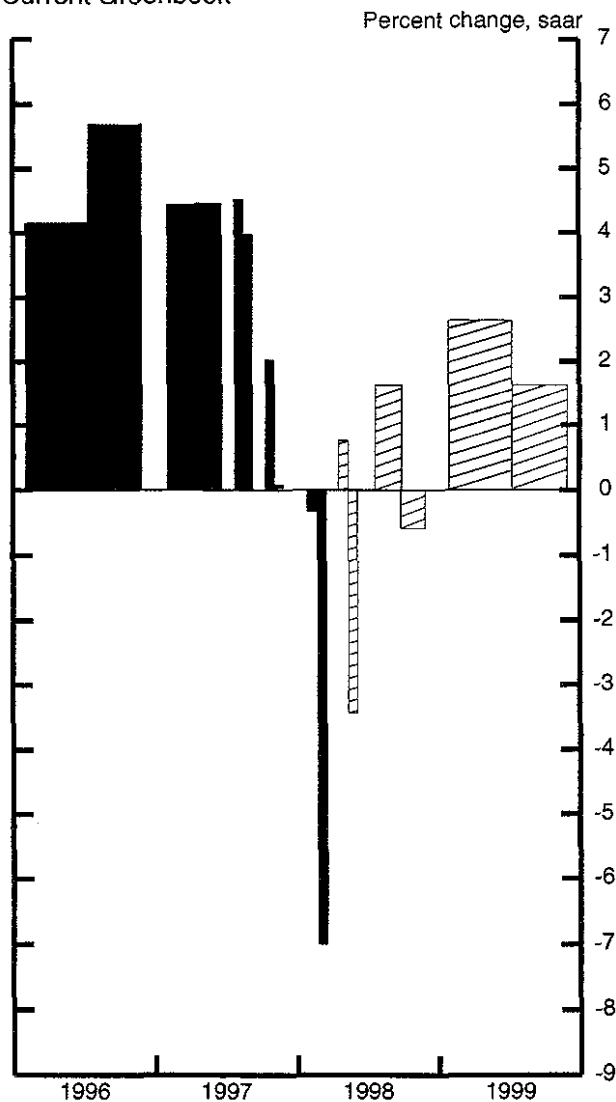
September 1997 Greenbook



January 1998 Greenbook



Current Greenbook



Shares of U.S. Nonag Exports and Foreign GDP

	Exports*	GDP**
Asia	30	43
<i>of which</i>		
<i>Front-line</i>	9	7
Korea	4	2
Indonesia	1	2
Malaysia	2	1
Philippines	1	1
Thailand	1	1
<i>Japan</i>	9	10
<i>Greater China and Singapore</i>	10	16
China	2	14
Hong Kong	2	1/2
Taiwan	3	1
Singapore	3	1/3
Europe	23	34
Canada	22	2
Latin America	20	11
Other	6	10
Total	100	100

* 1996-1997
 ** 1996

* Weighted by shares in U.S. nonagricultural exports.

Chart 5

Front-line Asia

Real GDP

Percent change, saar*

	1996	1997			1998			1999
		H1	Q3	Q4	Q1	Q2	H2	
Korea	7	6	6	-1	-23	-8	-3	2
Indonesia	10	2.7	1	-1	-22	-23	-15	-4
Malaysia	9	8	4	8	-23	-10	-3	0
Philippines	5	8	4	0	-1	-1	-0	2
Thailand	5	-1	-6	-9	-9	-8	-4	-0
Total**	7.0	5.3	2.1	-1.9	-17.7	-8.5	-3.8	0.7

* Change from end of preceding period. ** Weighted by shares in U.S. nonagricultural exports.

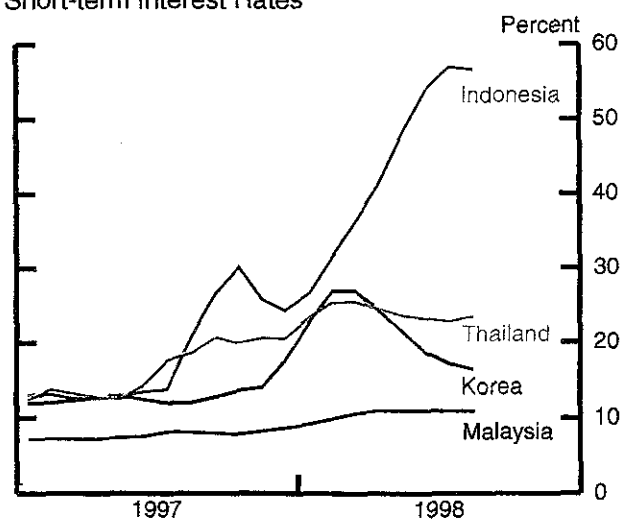
Note: Historical quarterly figures for Indonesia and Thailand are estimates.

Causes of Downturn

Sharp drop in consumption and investment resulting from:

- Massive balance sheet adjustments, drop in wealth
- Uncertainty about future earnings prospects
- Cancellation of projects following overinvestment
- Credit crunch and rising cost of funds

Short-term Interest Rates



Change in Trade 1997Q1 - 1998Q1

(U.S. \$billions, AR)

	Imports	Exports	Net
Korea	-53	10	63
Indonesia	-11	0	12
Malaysia	-14	-8	6
Thailand	-27	-1	26
Philippines	-1	5	7
Total	-95	6	102

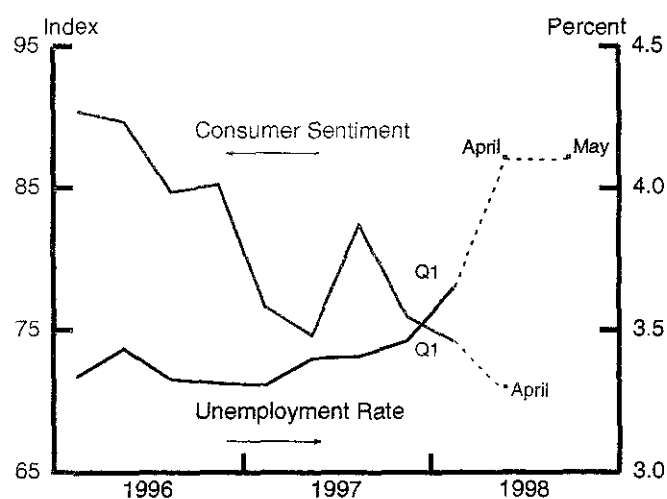
Chart 6
Japan

Real GDP

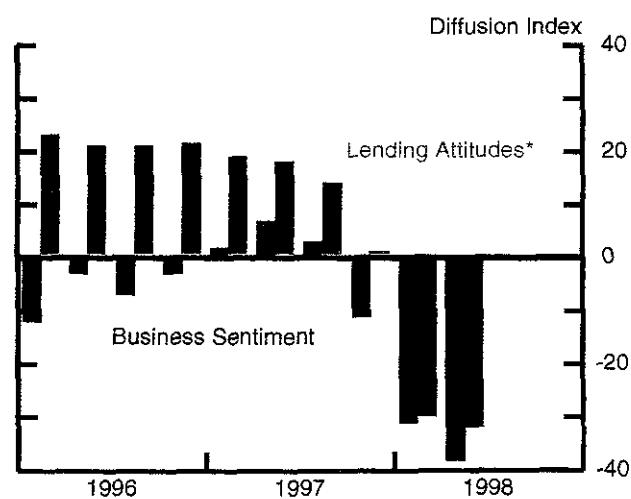
	1996	1997	1998			1999
			Q1	Q2	H2	
GDP	3.4	-0.4	-5.3	-2.4	1.9	0.4
Consumption	2.4	-0.9	0.4	-5.0	-1.0	0.4
Investment	11.7	-6.1	-14.5	-5.0	-1.0	0.4

Percent change, saar

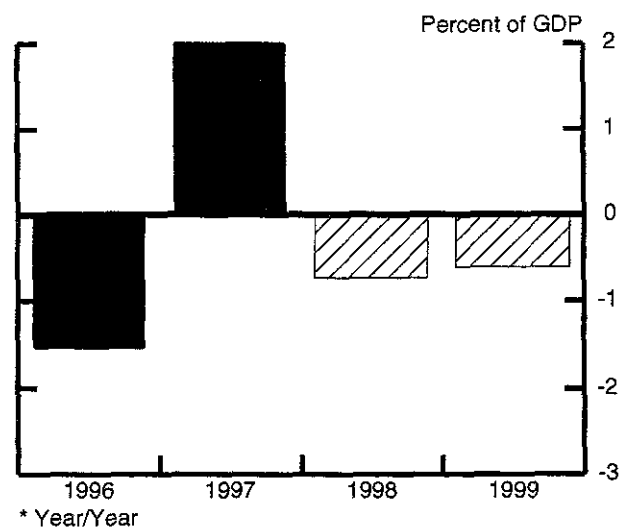
Unemployment and Consumer Sentiment



Business Sentiment and Lending Attitudes



Change in Structural Budget Balance*



Imports and Exports

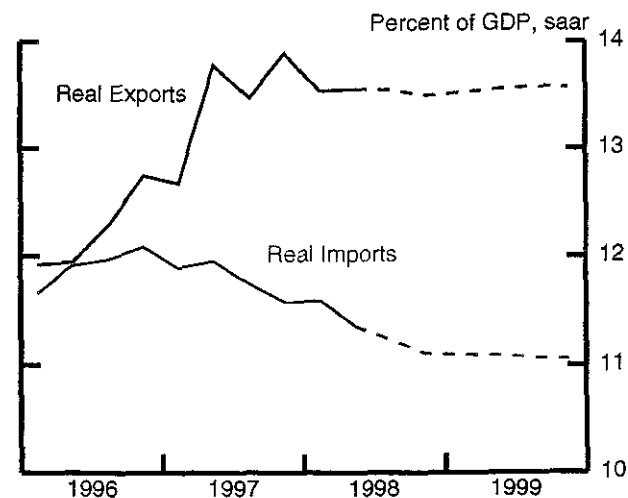


Chart 7

Greater China and Singapore

Real GDP

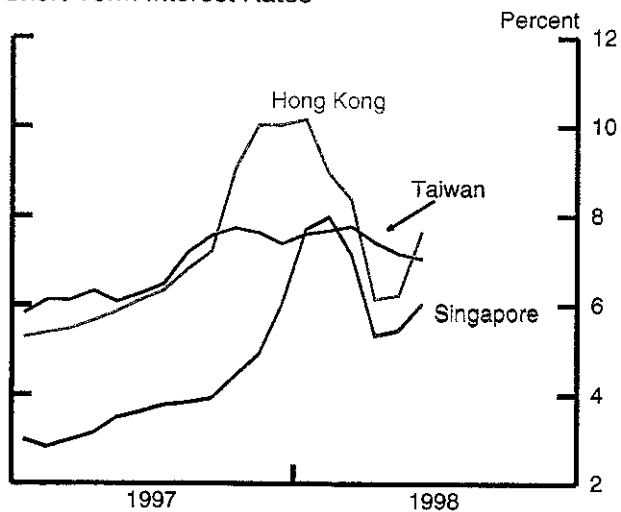
		Percent change, saar*						
	1996	1997			1998			1999
		H1	Q3	Q4	Q1	Q2	H2	
China	10	9	5	3	6	4	4	7
Taiwan	7	6	9	8	2	1	1	2
Hong Kong	6	8	2	-6	-10	-4	-2	1
Singapore	6	12	6	1	1	-1	-0	2
Total**	7.3	8.8	5.6	2.1	0.8	0.7	0.9	3.4

* Change from end of preceding period.

Note: Historical quarterly data for China are estimates.

** Weighted by shares in U.S. nonagricultural exports.

Short-Term Interest Rates

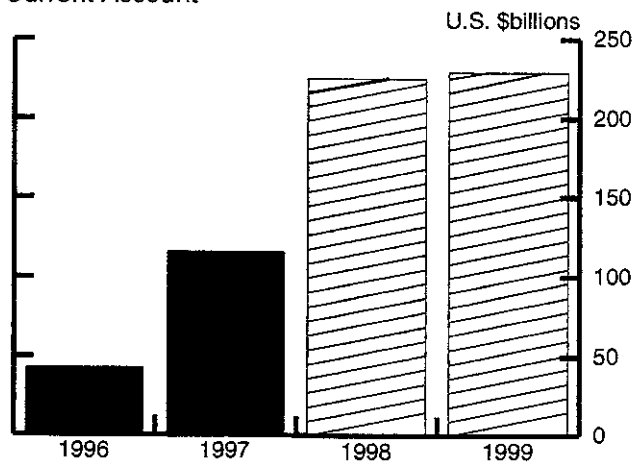


Trade*



10 Asian Economies

Current Account



Trade by Region*

	Change 1997Q1-1998Q1 (U.S. \$billions, AR)		
	Imports	Exports	Net
United States	-17	19	36
Europe	-20	20	40
Asia	-50	-50	0
Other	-54	22	76
Total	-140	11	151

* Excludes Hong Kong and Indonesia.

Chart 8

Europe, Canada and Latin America

Real GDP

Percent change, saar

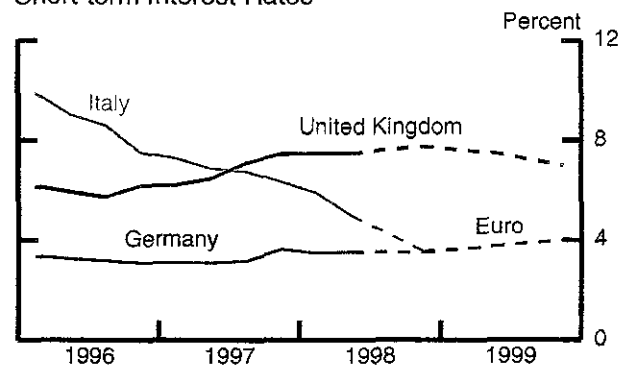
	1996	1997			1998			1999
		H1	Q3	Q4	Q1	Q2	H2	
Euroland	1.9	3.3	3.4	2.1	3.0	2.3	2.8	3.0
United Kingdom	2.9	2.8	3.6	2.5	2.0	2.3	1.8	2.0
Canada	2.0	4.5	4.3	2.8	3.7	3.6	3.0	2.7

Real Net Exports

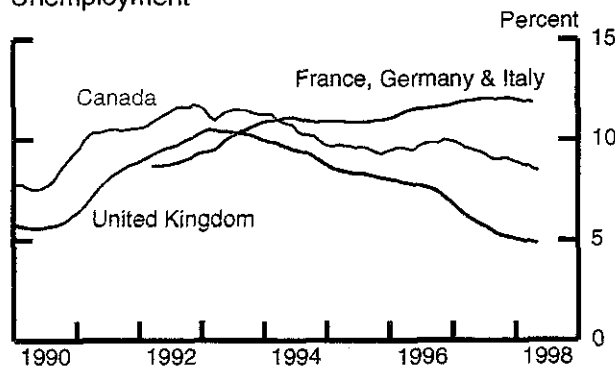
Percent Contribution to GDP Growth

	1998			1999
	Q1	Q2	H2	
France, Germany and Italy	-2.7	-0.4	-0.3	-0.1
United Kingdom	-2.3	-1.1	-0.6	-0.1
Canada	2.5	-0.5	-0.5	-0.1

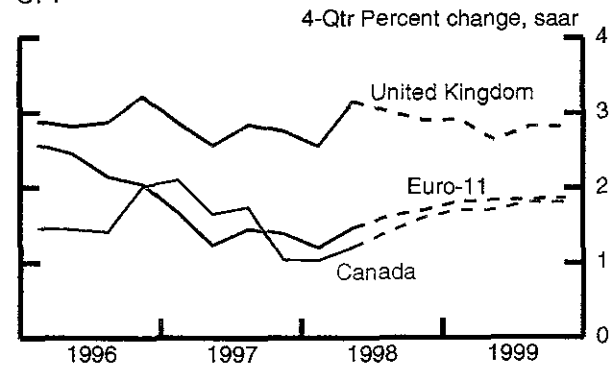
Short-term Interest Rates



Unemployment



CPI



Latin America

Real GDP

Q4/Q4 change, Percent

	1997	1998	1999
Mexico	6.7	3.2	5.1
Argentina	7.0	4.6	5.8
Brazil	2.1	-0.3	0.0

Current Account

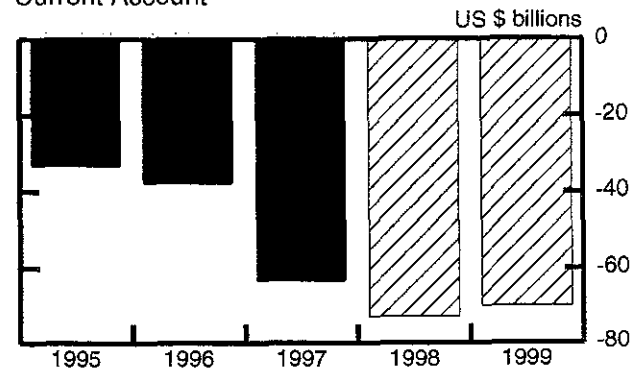
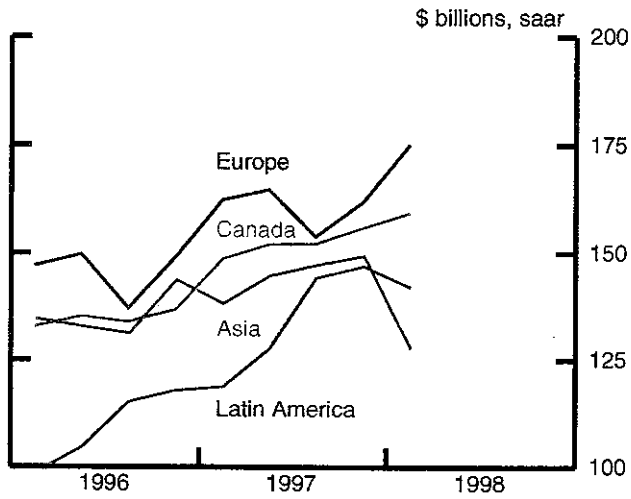


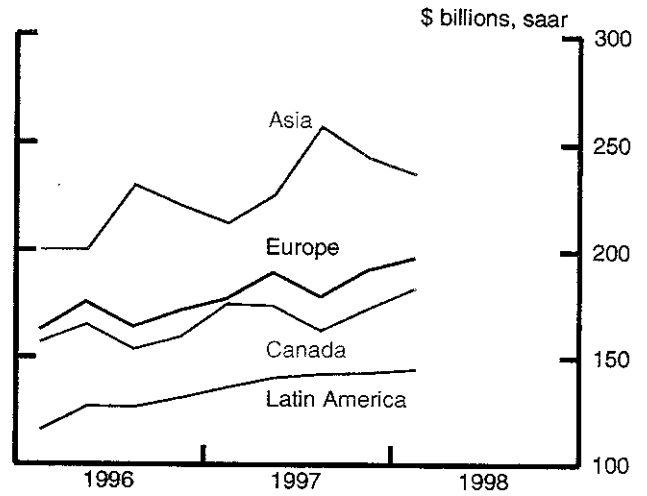
Chart 9

U.S. Exports and Imports

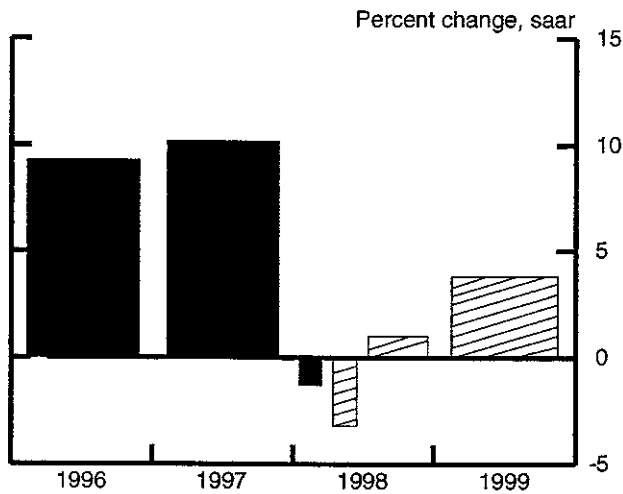
Exports by Region



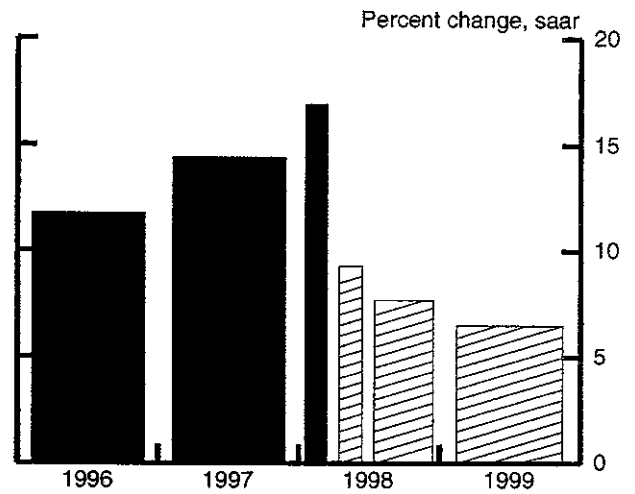
Imports by Region



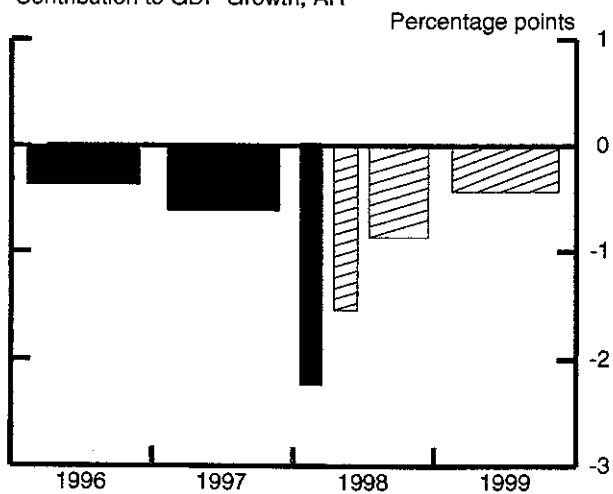
Real Exports



Real Imports



Net Exports
Contribution to GDP Growth, AR



Current Account

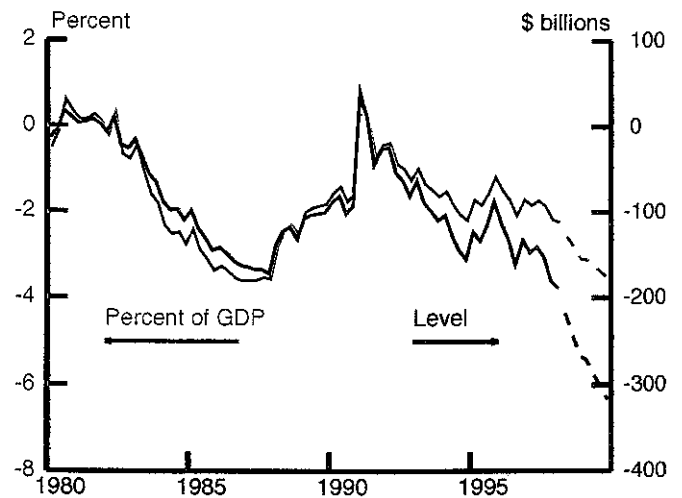
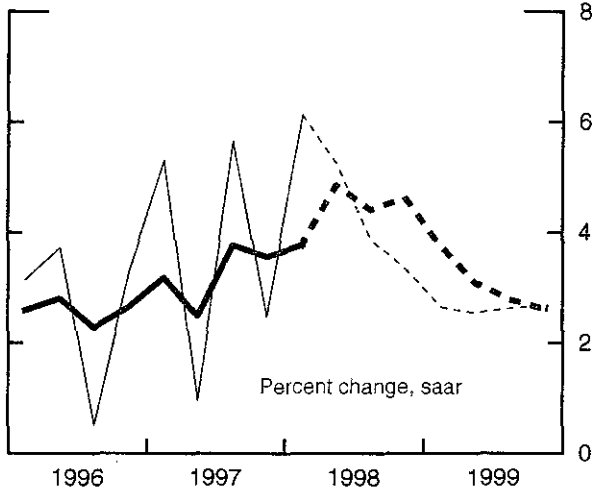


Chart 10

Household Spending

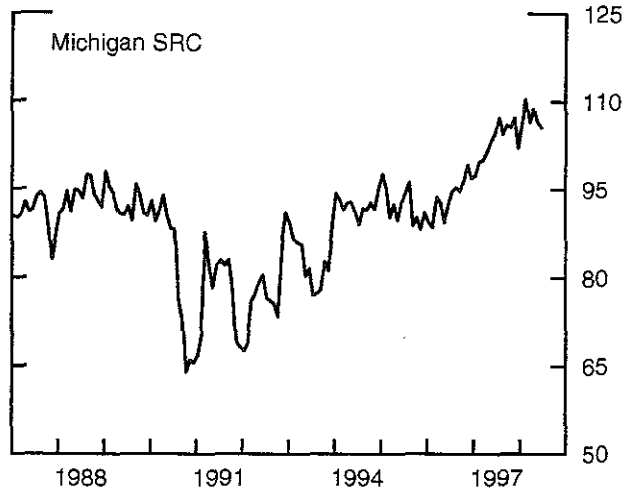
Real Personal Consumption

Four-quarter percent change



Consumer Sentiment

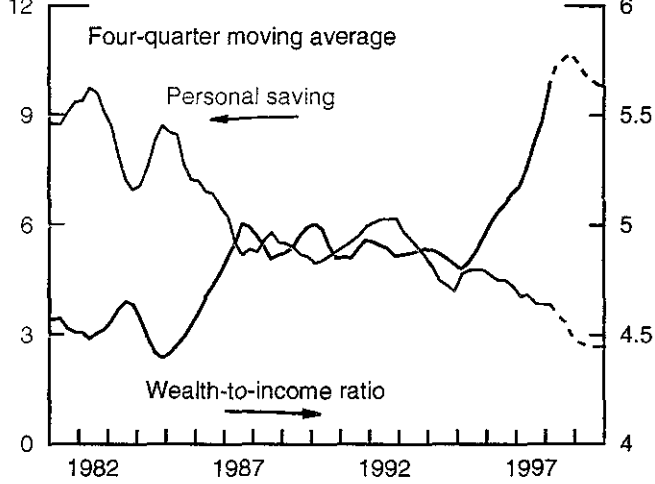
Index, 1966=100



Net Worth and Personal Saving

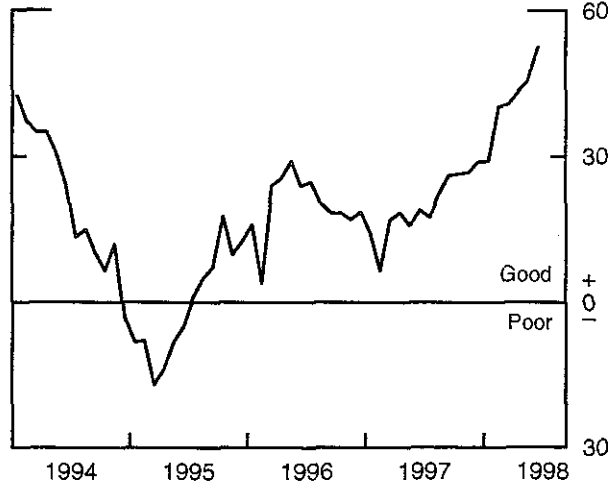
Percent

Ratio



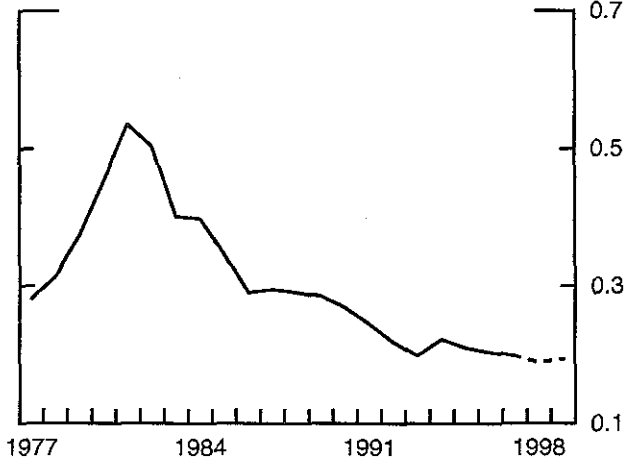
NAHB Sales Index

Diffusion index



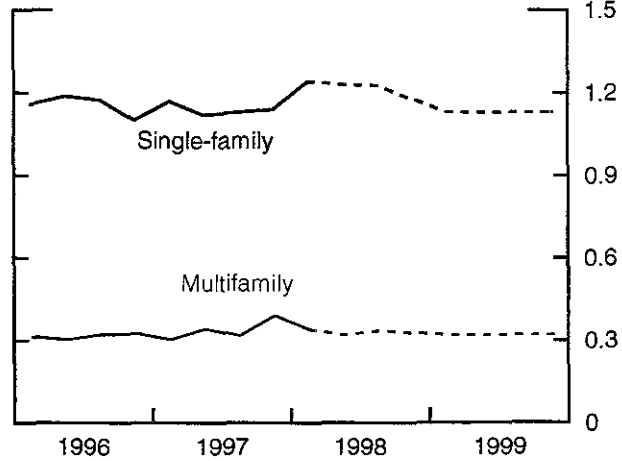
Cash-flow Burden of Homeownership*

Monthly payment/income



Housing Starts

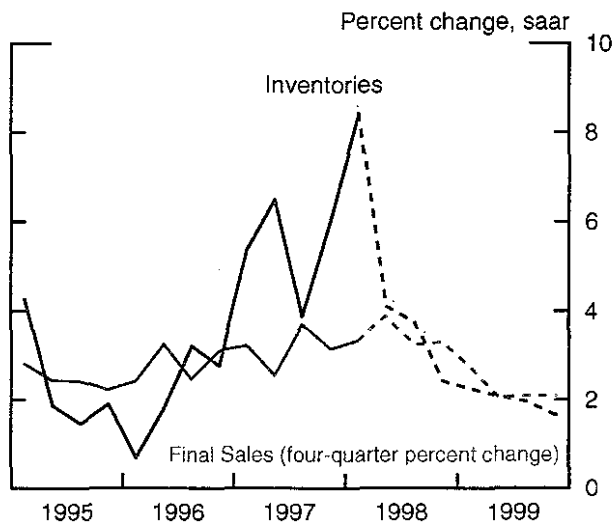
Millions of units, saar



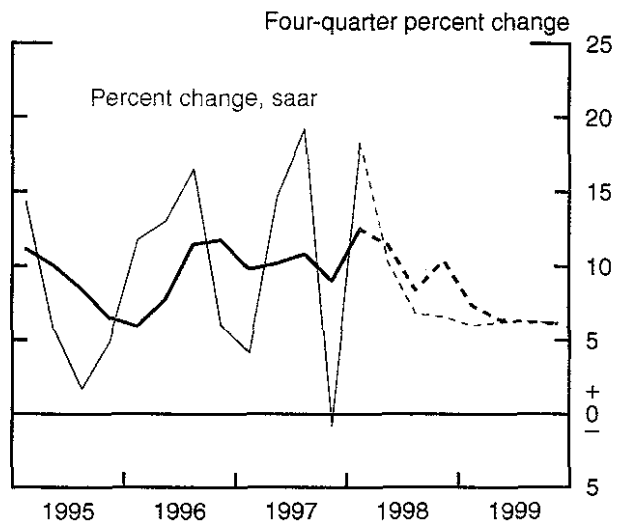
* Based on new home, 30 year FRM.

Business Spending

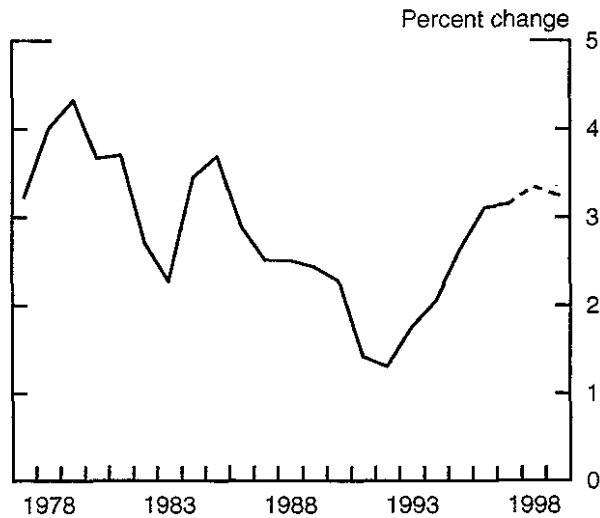
Growth of Inventories and Final Sales



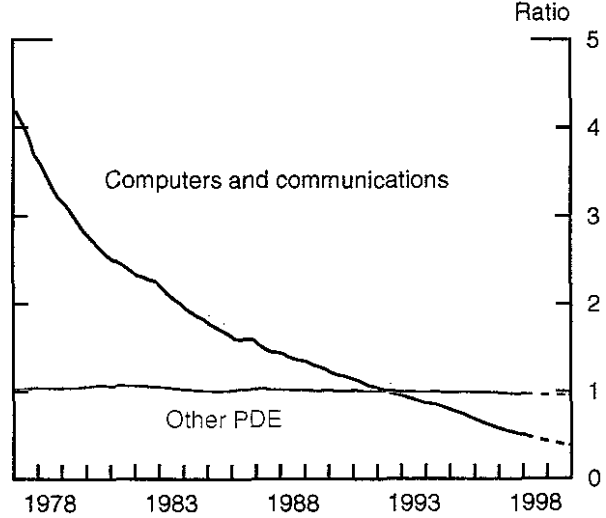
Real Business Fixed Investment



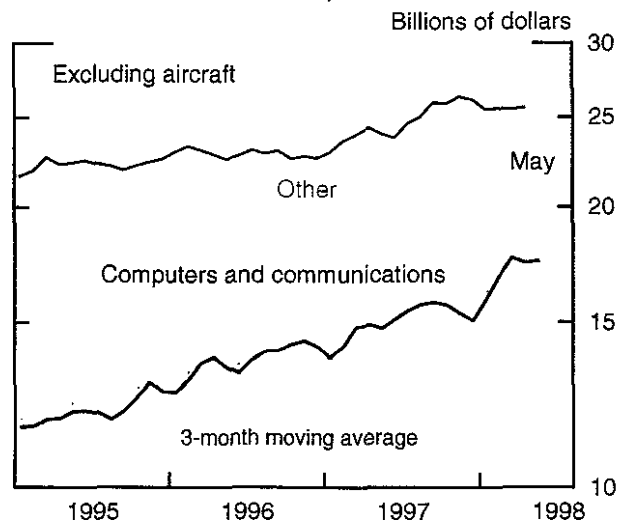
Growth of Net Capital Stock



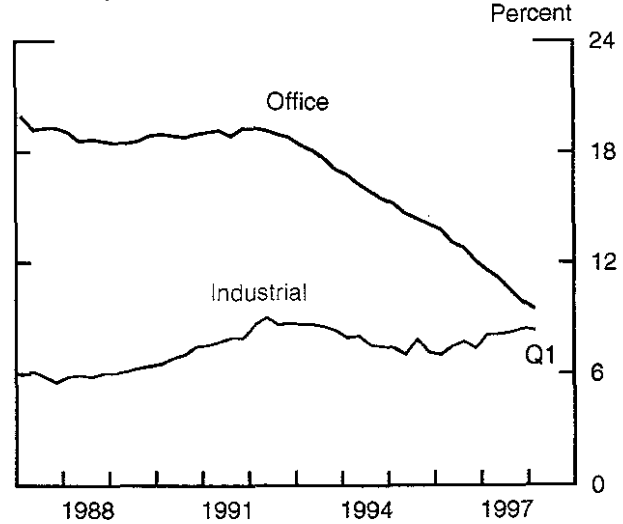
Equipment Prices Relative to GDP Prices



Orders for Nondefense Capital Goods



Vacancy Rates



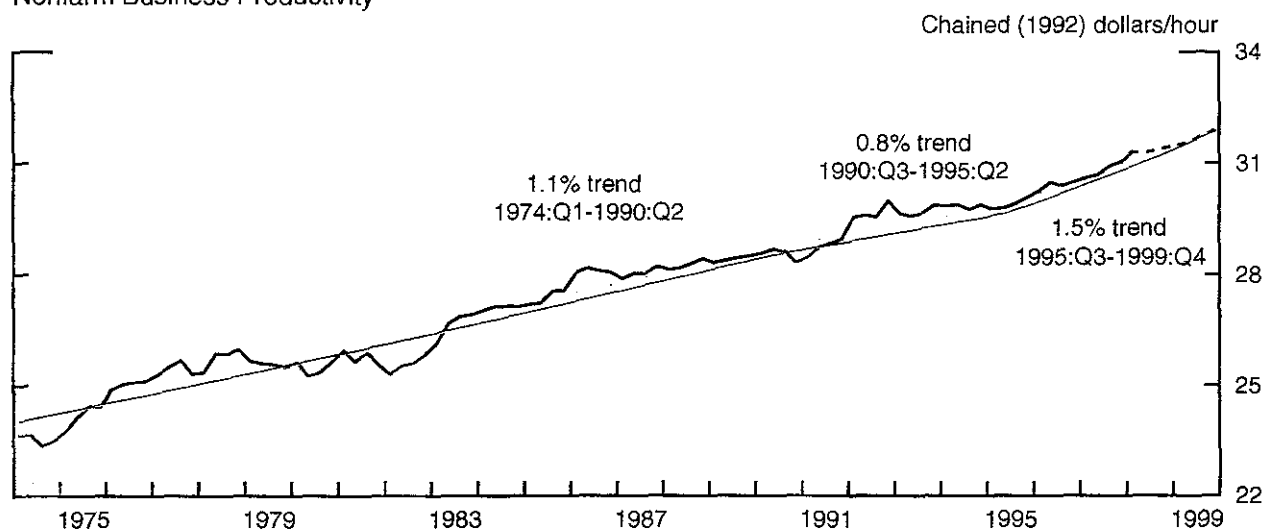
Source: CB Commercial.

Supply-Side Components of Potential GDP

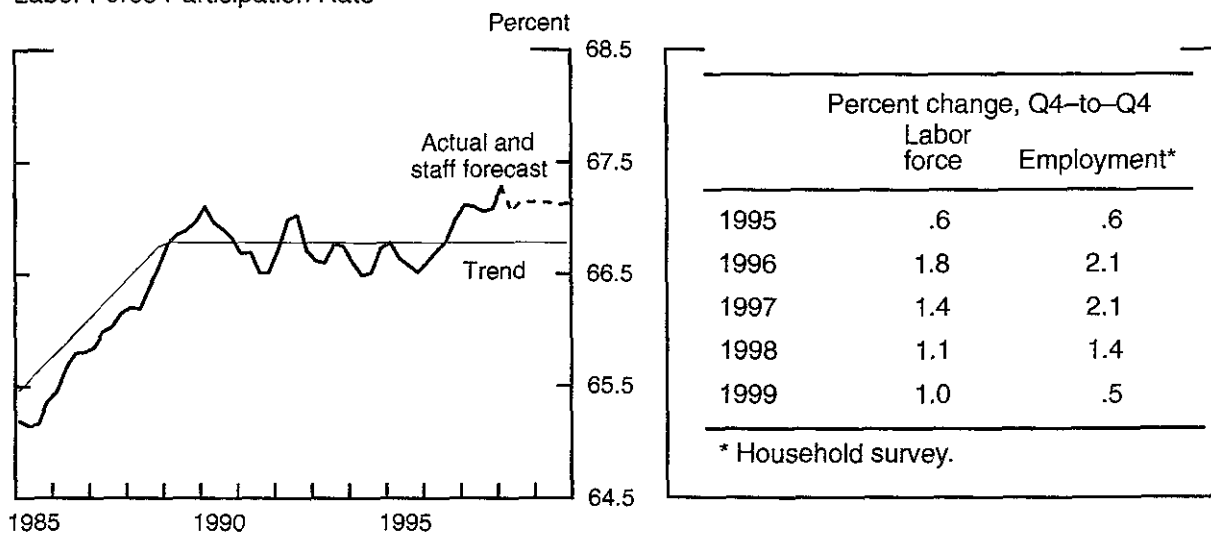
	Long-term trends			Projection
	1973-79	1979-90	1990-95	1995-99
1. Potential GDP	3.3	2.6	1.9	2.5
2. Labor input	2.0	1.6	1.1	1.0
3. Labor productivity	1.1	1.1	.8	1.5
4. Capital deepening	.6	.6	.4	.9
5. Labor quality	.0	.3	.4	.3
6. Multifactor productivity	.5	.2	.0	.3
7. Technical factors	.2	-.1	.0	.0

Note: Adjusted to place on a technically consistent basis.

Nonfarm Business Productivity



Labor Force Participation Rate

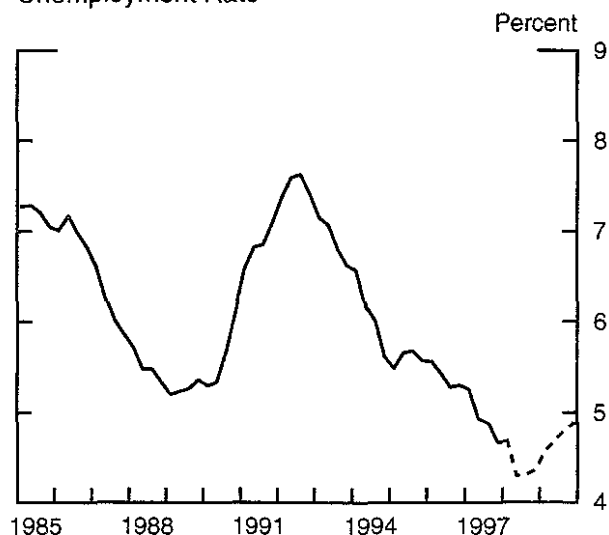


Note: Adjusted for CPS revision.

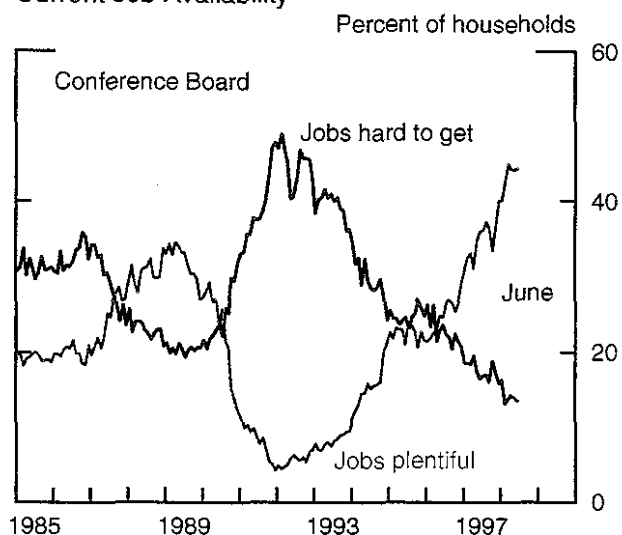
Chart 13

The Labor Market

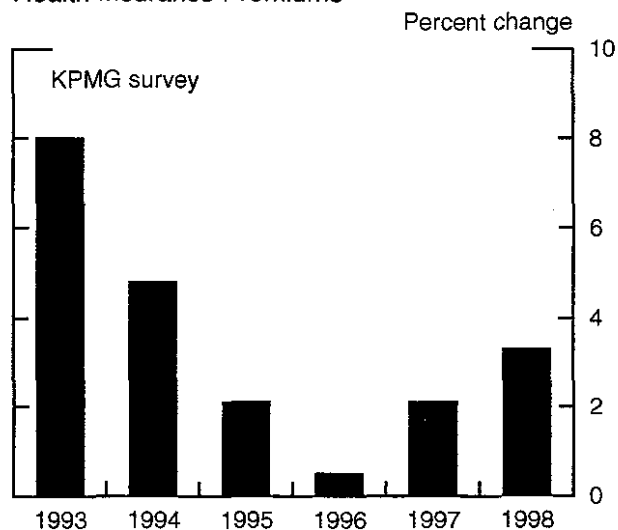
Unemployment Rate



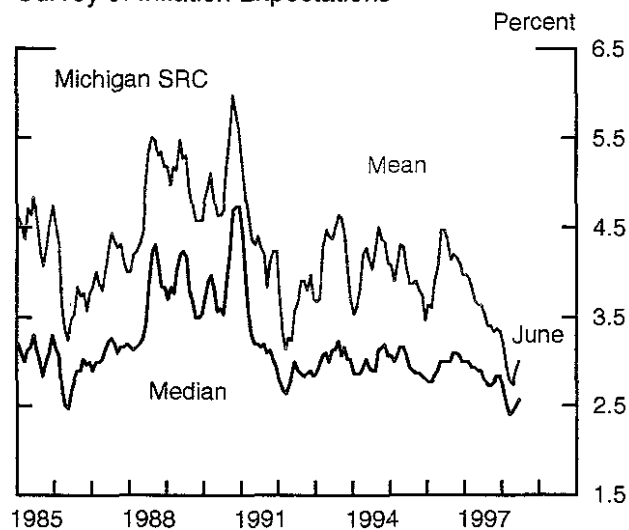
Current Job Availability



Health Insurance Premiums



Survey of Inflation Expectations



Employment Cost Indexes

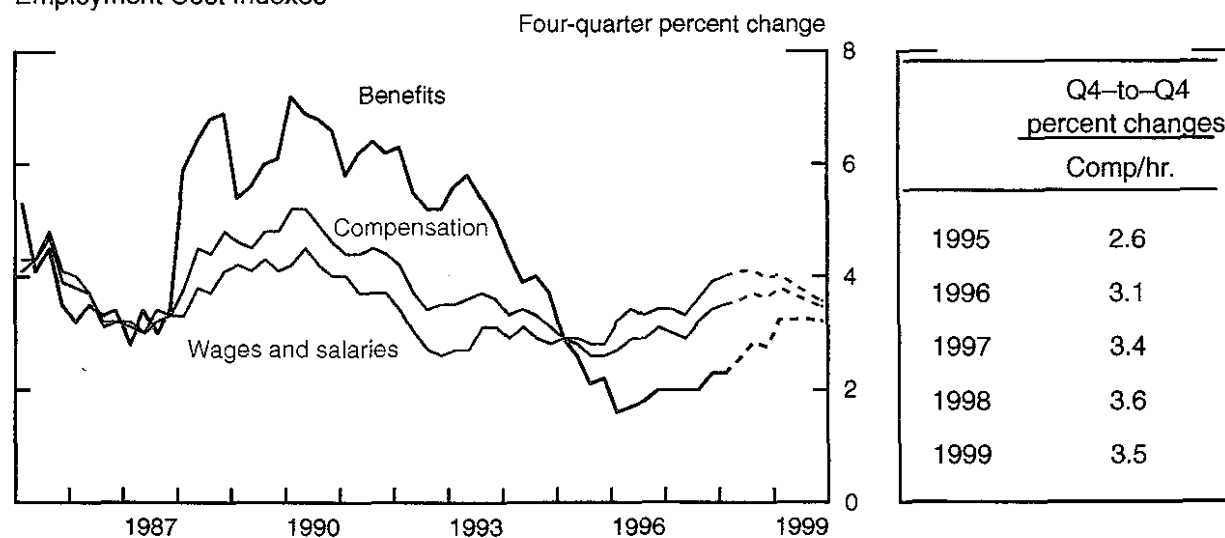


Chart 14

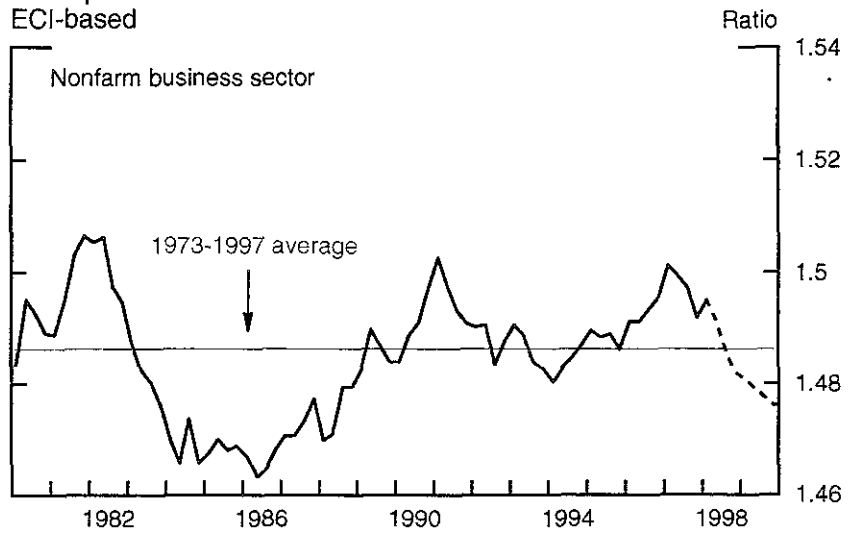
The Product Market

Real Wages

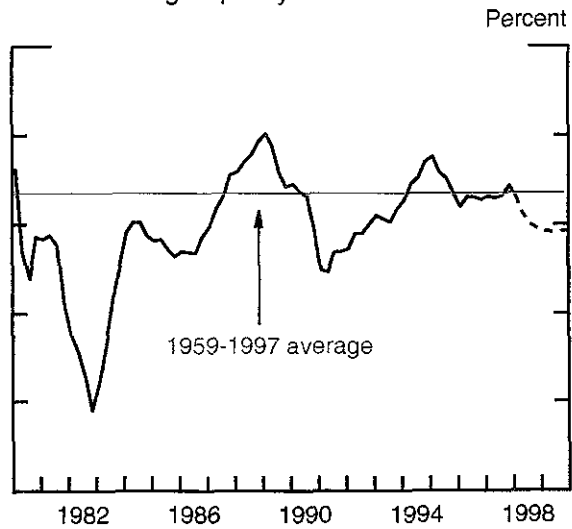
Q4-to-Q4 percent changes		
	Real Comp/hr. ¹	Trend prod. ¹
1996	.9	1.5
1997	1.9	1.5
1998	2.4	1.5
1999	1.9	1.5

1. Technically consistent basis.

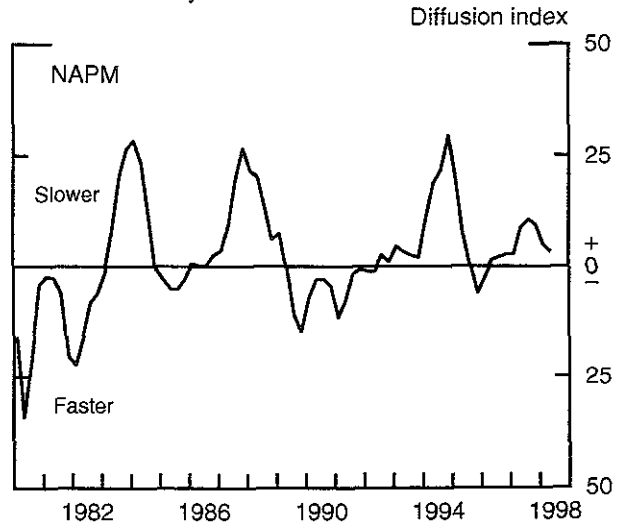
Markup of Prices over Trend Unit Labor Costs
ECI-based



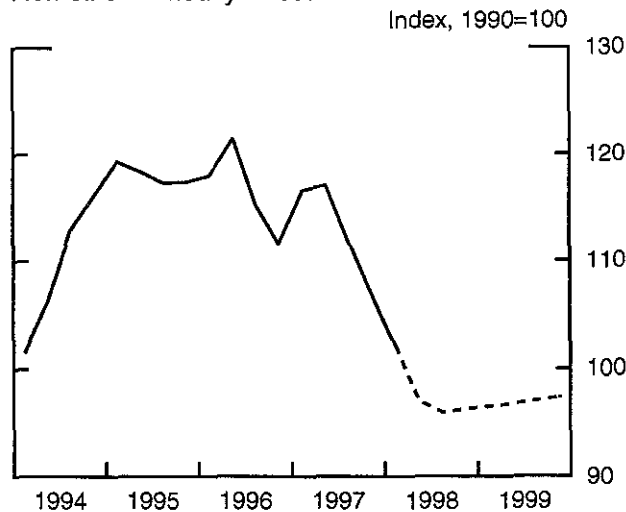
Manufacturing Capacity Utilization



Vendor Delivery Performance



Non-oil Commodity Prices



Oil Prices

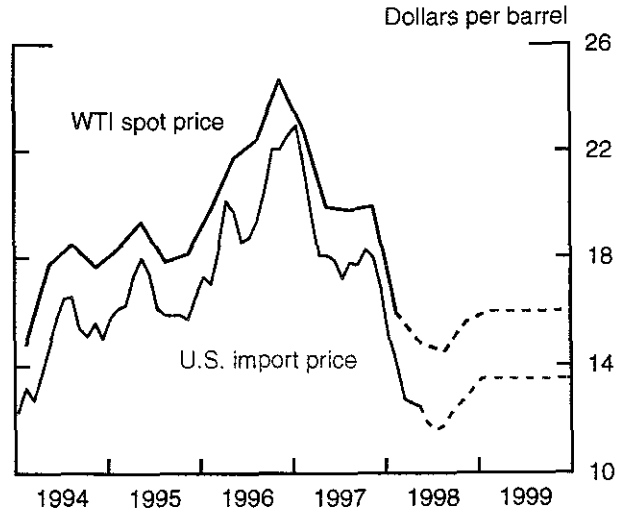
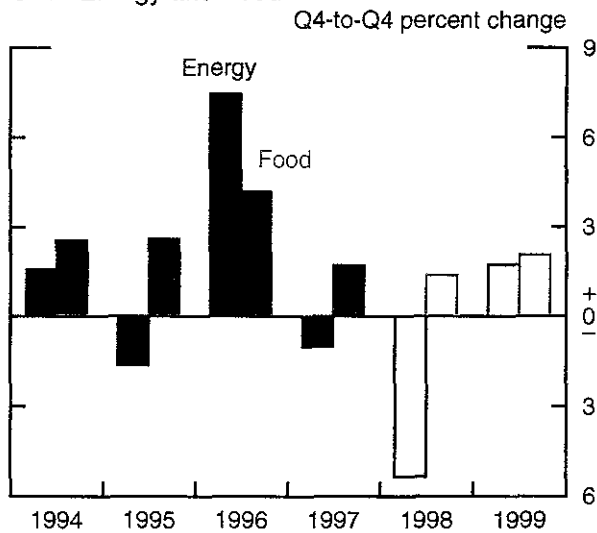


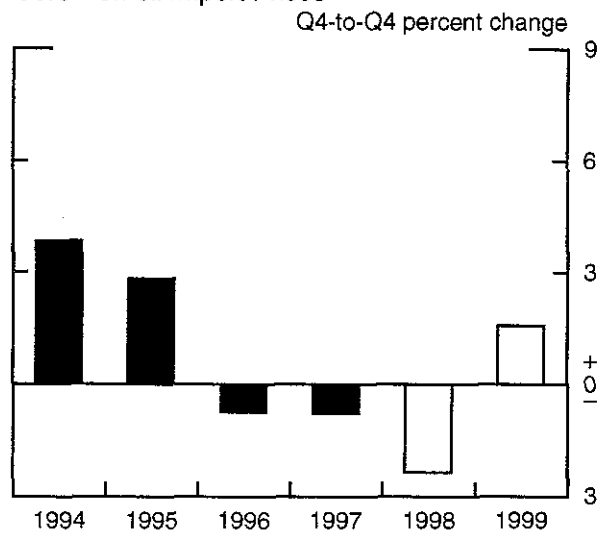
Chart 15

Consumer Prices

CPI - Energy and Food

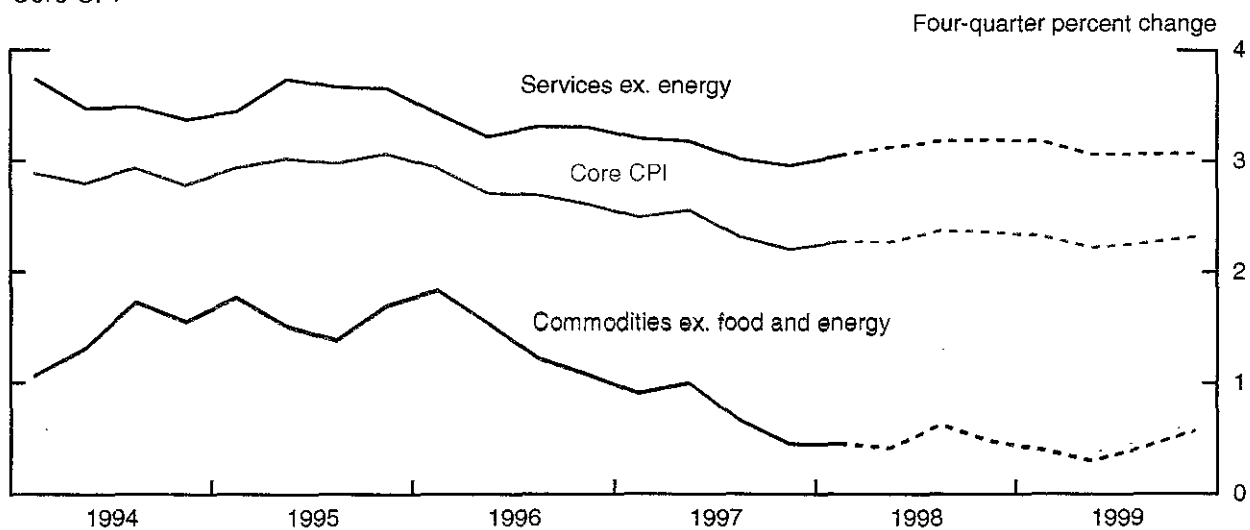


Core Non-oil Import Prices*



* Excludes computers and semiconductors.

Core CPI



Price Projection

	1996	1997	1998	1999
1. CPI	3.2	1.9	1.7	2.2
2. Excluding food and energy	2.6	2.2	2.3	2.3
3. Excluding food and energy (technically consistent)	2.7	2.4	2.7	3.0
MEMO:				
4. "Actual" CPI excluding food and energy*	1.4	1.1	1.4	1.7
5. "Actual" GDP prices*	1.5	1.1	0.8	1.1

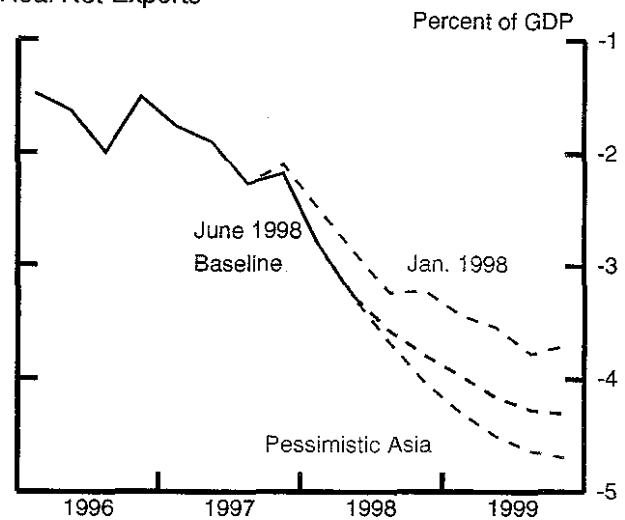
* Adjusted for staff estimate of measurement bias.

Alternative Scenarios

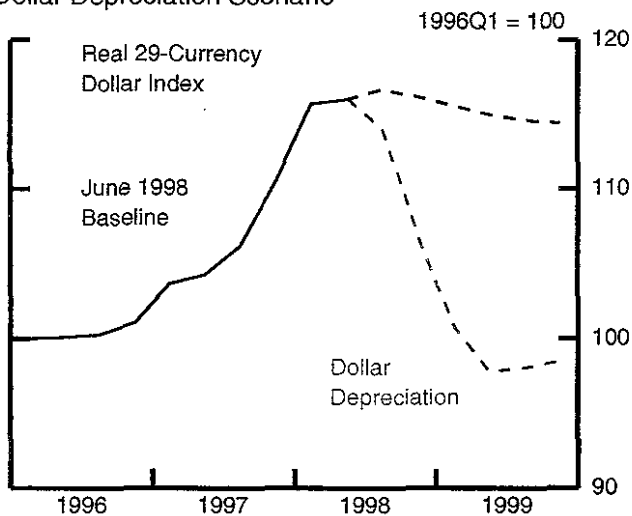
Pessimistic Asia Scenario

- Policy inaction in Japan; yen falls to 175
- Asian GDP falls 7 percent by the end of 1999
- Contagion in Latin America and Eastern Europe
- U.S. stock market falls 20 percent

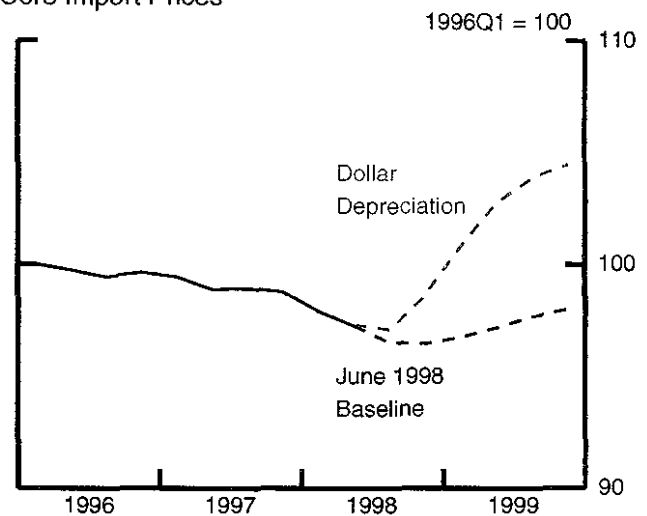
Real Net Exports



Dollar Depreciation Scenario



Core Import Prices



Alternative Scenarios*

	1998H2	1999	2000
US GDP (Percent changes, AR)			
Baseline	1.8	2.0	2.3
Pessimistic Asia	1.3	0.9	1.4
Dollar Depreciation	2.1	3.3	3.1
US CPI (Percent changes, AR)			
Baseline	2.1	2.2	2.4
Pessimistic Asia	1.9	1.3	1.3
Dollar Depreciation	2.2	3.2	3.8

* U.S. federal funds rate held unchanged.

ECONOMIC PROJECTIONS FOR 1998

	FOMC			
	Range	Central Tendency	Administration	Staff
	Percent change, Q4 to Q4			
Nominal GDP	3 ³ / ₄ to 5	4 ¹ / ₂ to 5	4.2	4.3
previous estimate	(3 ¹ / ₂ to 5)	(3 ³ / ₄ to 4 ¹ / ₂)	(4.0)	
Real GDP	2 ³ / ₄ to 3 ¹ / ₄	3 to 3 ¹ / ₄	2.4	2.7
previous estimate	(1 ³ / ₄ to 3)	(2 to 2 ³ / ₄)	(2.0)	
CPI	1 ¹ / ₄ to 2 ¹ / ₄	1 ³ / ₄ to 2	1.6	1.7
previous estimate	(1 ¹ / ₂ to 2 ¹ / ₂)	(1 ³ / ₄ to 2 ¹ / ₄)	(2.2)	
	Average level, Q4, percent			
Unemployment rate	4 ¹ / ₄ to 4 ¹ / ₂	4 ¹ / ₄ to 4 ¹ / ₂	4.8	4.4
previous estimate	(4 ¹ / ₂ to 5)	(~4 ³ / ₄)	(5.0)	

ECONOMIC PROJECTIONS FOR 1999

	FOMC			
	Range	Central Tendency	Administration	Staff
	Percent change, Q4 to Q4			
Nominal GDP	4 to 5 ¹ / ₂	4 ¹ / ₄ to 5	4.1	3.7
Real GDP	1 ³ / ₄ to 3	2 to 2 ¹ / ₂	2.0	2.0
CPI	1 ¹ / ₂ to 3	2 to 2 ¹ / ₂	2.1	2.2
	Average level, Q4, percent			
Unemployment rate	4 ¹ / ₄ to 4 ³ / ₄	4 ¹ / ₂ to 4 ³ / ₄	5.0	4.9

NOTE: Central tendencies constructed by dropping top and bottom three from distribution, and rounding to nearest quarter percent.

APPENDIX 3

Charts used by Mr. Whitesell in his presentation

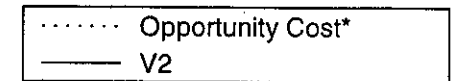
STRICTLY CONFIDENTIAL (FR) CLASS I - FOMC

Material for the

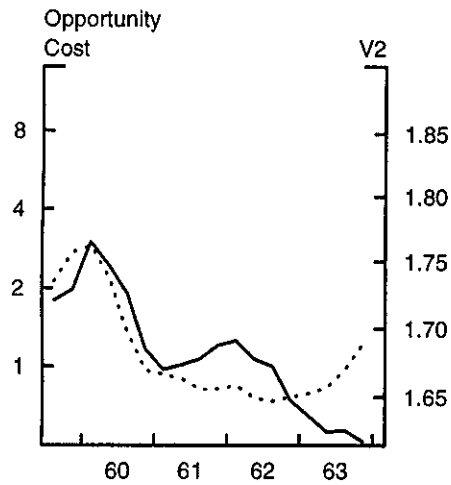
*Staff Presentation on
Money and Debt Ranges*

June 30 - July 1, 1998

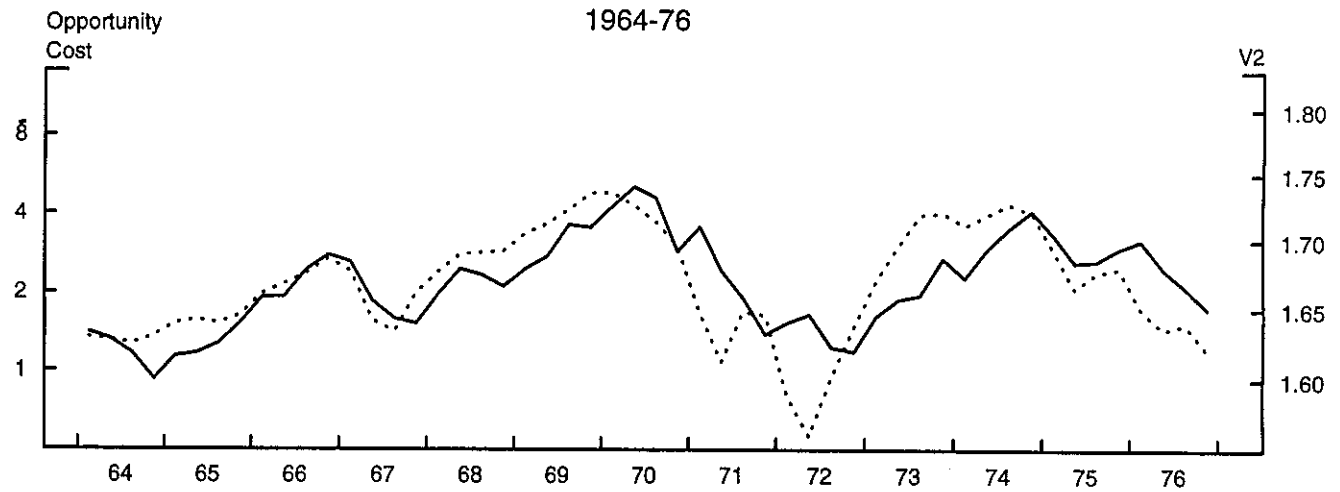
Chart 4
M2 Velocity and Opportunity Cost by Period
(Quarterly, ratio scales)



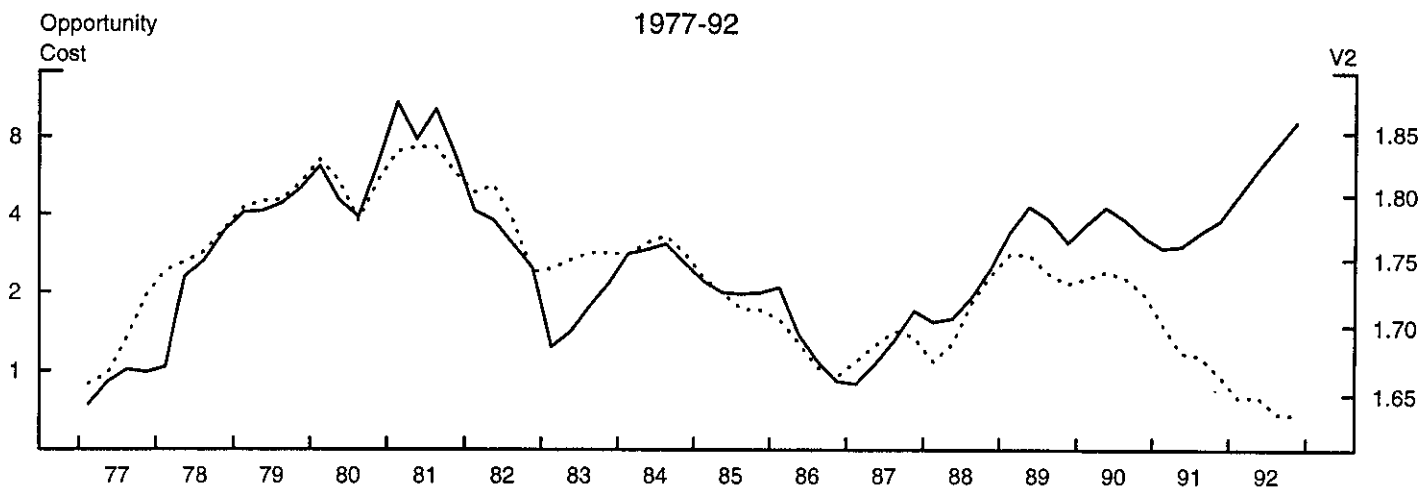
1959Q3-63Q4



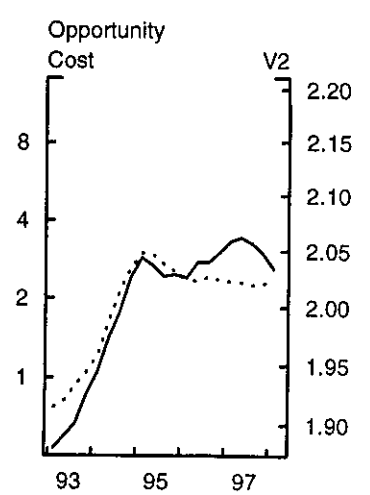
1964-76



1977-92

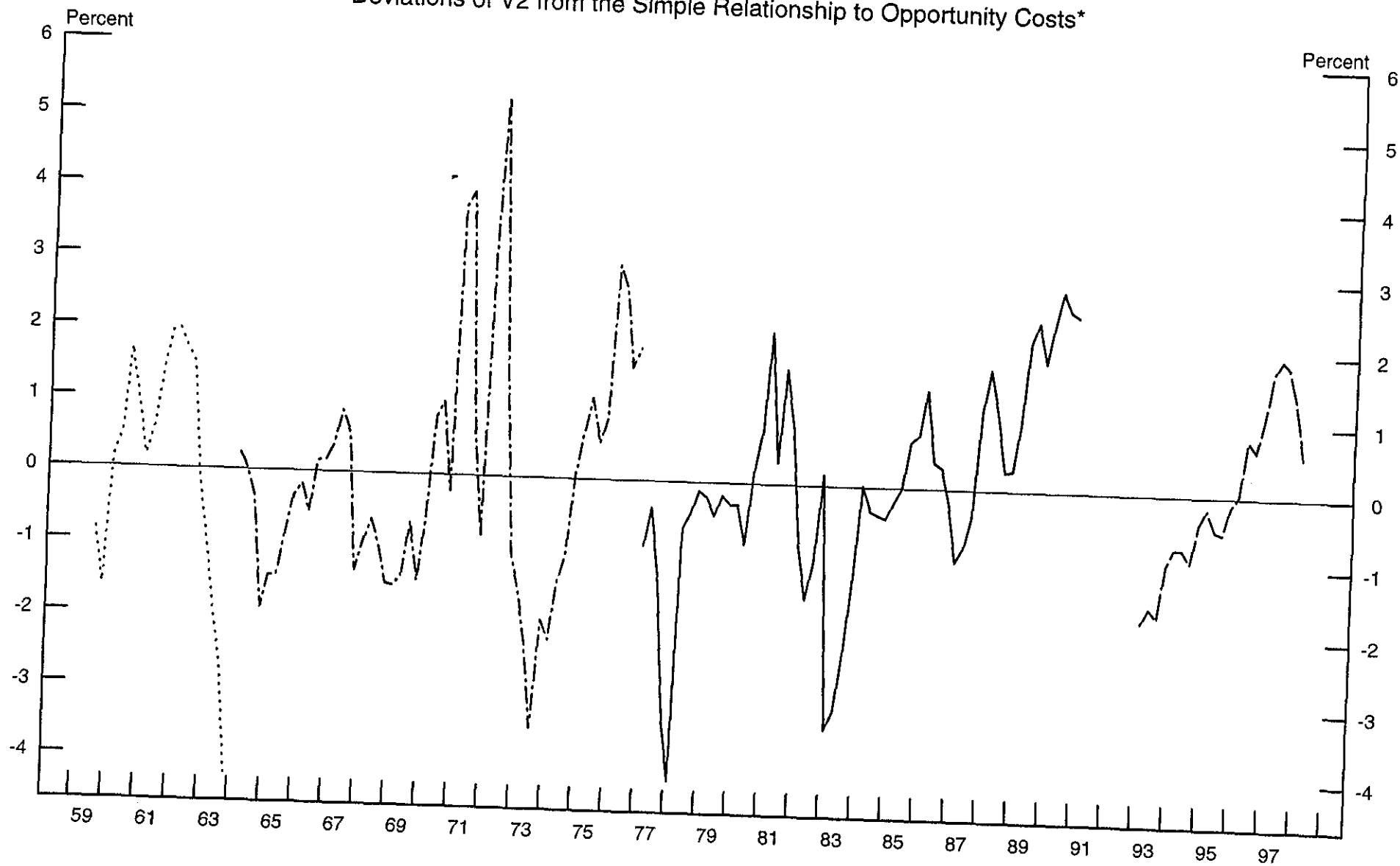


1993-98Q1



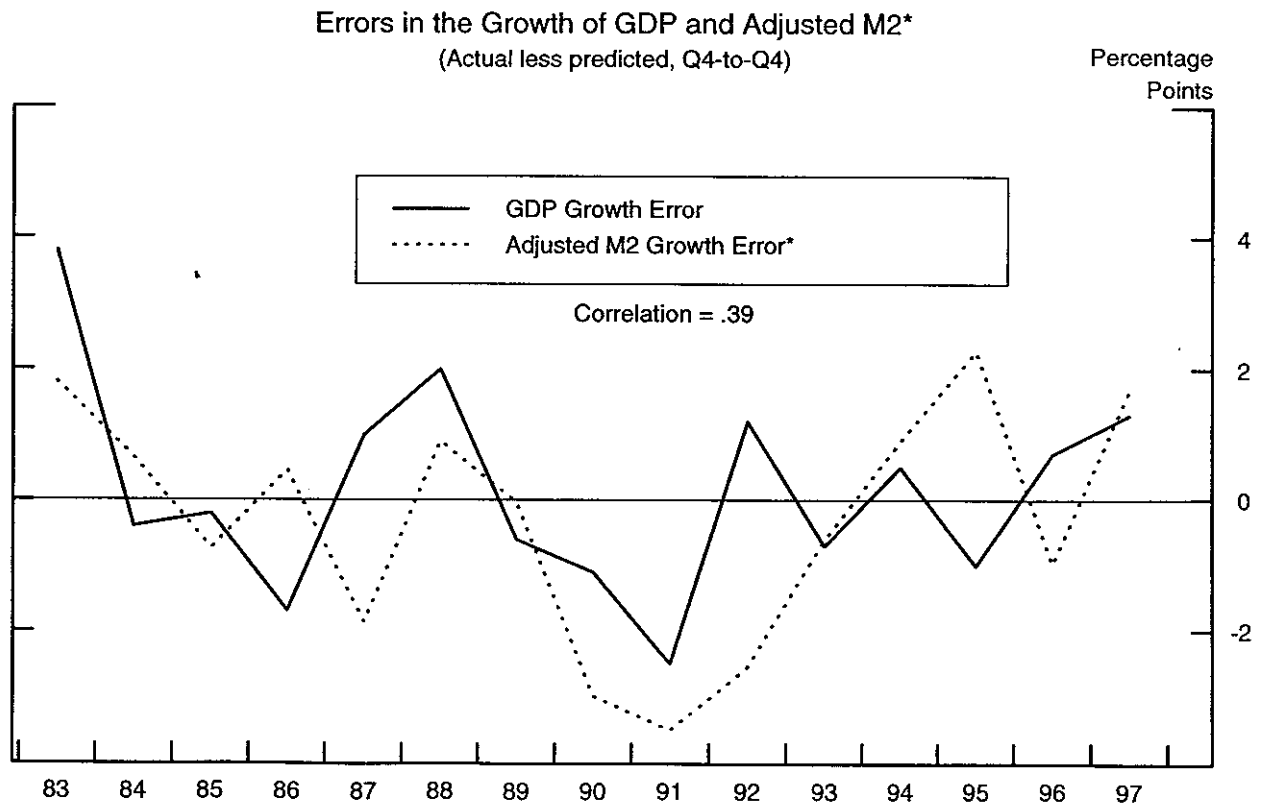
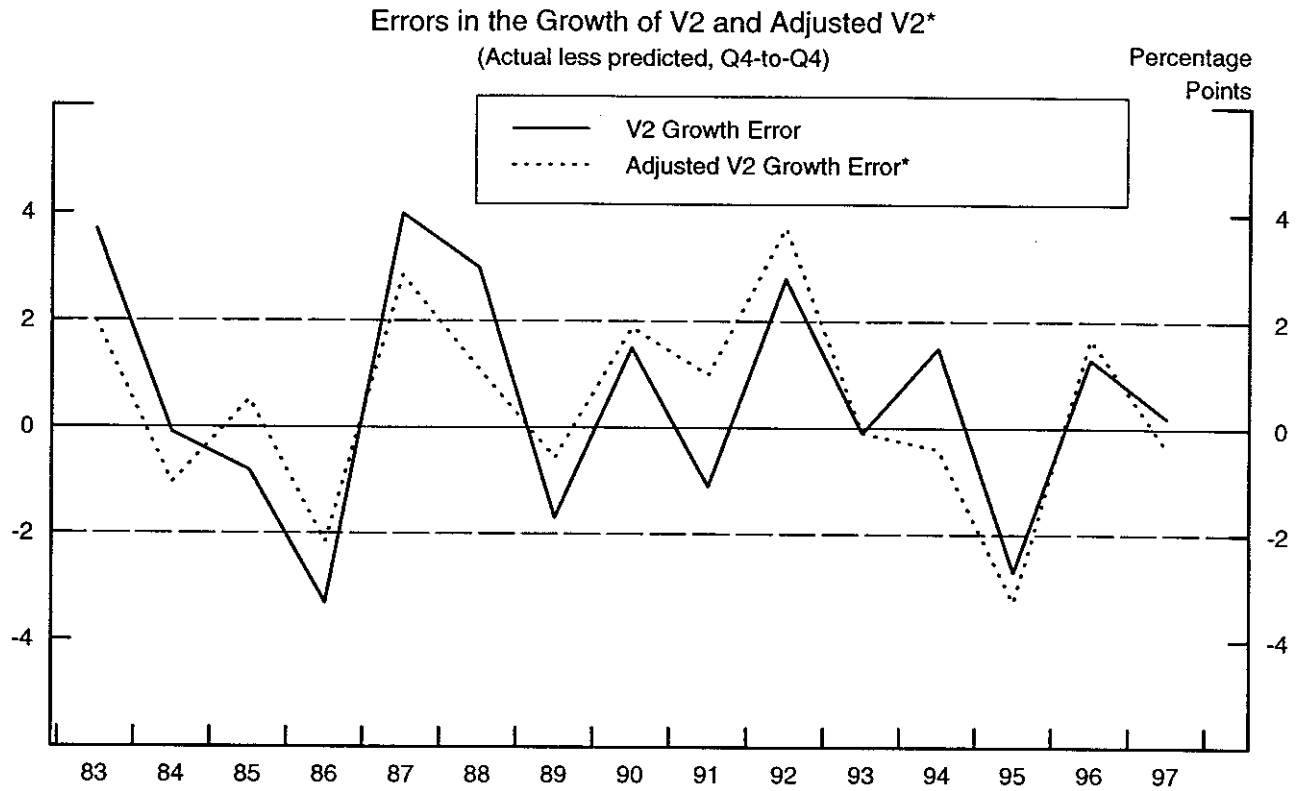
* Opportunity Cost (left scale), in percentage points, the dotted line, is a two-quarter moving average, V2 (right scale), the solid line, is in levels; both are ratio scales.

Chart 5
Deviations of V2 from the Simple Relationship to Opportunity Costs*



* Percentage deviations from actual V2 of estimates based on opportunity costs.
The years 1991 and 1992, when long-run velocity was shifting up sharply, are omitted.

Chart 6
Analysis of Judgmental Projections of M2 Made in February for the Current Year



* The errors are adjusted for the effects of deviations of the federal funds rate from Greenbook assumptions, based on the semi-elasticity of 1.9 implied by the correlation between the forecast errors of V2 growth and of the funds rate.

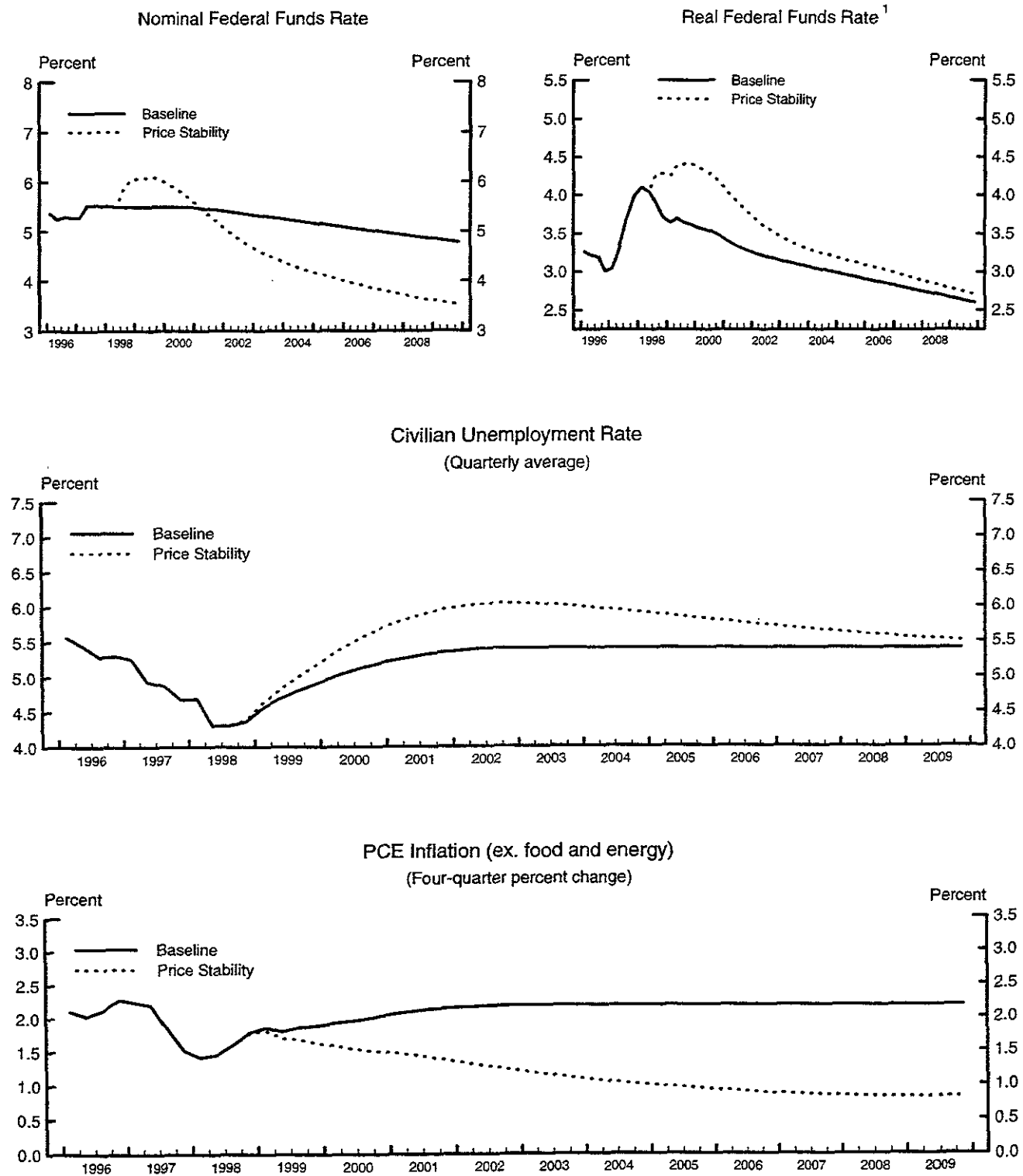
Growth of Money and Debt and Alternative Ranges
(percent)

	1998 -----projected-----	1999	Alt. I <u>(current)</u>	Alt. II _____	Alt. III _____
M2	6	4	1 to 5	2 to 6	1 to 5
M3	9	6½	2 to 6	4 to 8	2 to 6
Debt	5½	4½	3 to 7	2 to 6	1 to 5
Memo:					
Nominal GDP	4¼	3¼			

APPENDIX 4

Chart used by Mr. Lindsey in his presentation

Chart 2
Alternative Strategies for Monetary Policy



1. The real federal funds rate is calculated as the quarterly nominal funds rate minus the four-quarter percent change in the PCE chain-weight price index excluding food and energy.